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BOOK REVIEW

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Cash Flow Statements: An International Comparison of Regulatory Positions

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Key Words: Cash flow reporting; Cross-national accounting comparison; Accounting standards on cash flow statements; International accounting diversity

Abstract: *Our paper compares the standard documents on cash flow statements (CFSs) from five nations and the IASC. We report on substantial differences among the standard setting bodies from the five nations and the IASC on the one hand and their constituents on the other. There are variations in regulatory postures on almost every aspect of the cash flow statement (CFS). We identify different ways of categorizing cash flows, alternative formats for presenting cash flows from operating activities among others but do not make personal choices because we do not seek to play the role of standard setters. We conclude that the quest for international harmonization of reporting practices cannot be easy.*

INTRODUCTION

The authorities responsible for setting corporate reporting standards in five countries (Australia, Canada, New Zealand, the United Kingdom and the United States) and the International Accounting Standards Committee (IASC) have, within a relatively short period of time (1985-92), issued pronouncements requiring many, if not all, enterprises in their jurisdictions to publish CFSs instead of the statement of changes in financial position (SCFP) in their annual reports. The IASC was the last to replace (in October 1992) its accounting standard document (IAS 7) on SCFP with an accounting standard document on the CFS (IAS 7; revised 1992). This revised accounting standard document applies to financial statements covering the periods beginning on or after 1 January 1994.

This paper compares the revised IAS 7 with those standards that have been issued by five national standard-setting bodies (national authorities, henceforth) on the topic. The relevant pronouncements on CFS from the five countries and the IASC are listed in Table 1. The CFS is chosen as a window for investigating the similarities and differences in the positions of standard-setting bodies from around the world because the CFS is a relatively recent report-

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Table 1. List of Standards on Cash Flow Statements Issued Across the World

Countries	*Relevant Pronouncements on CFSs*
Canada	(a) Accounting Recommendations: General Accountng Section 1540 of the Canadian Institute of Chartered Accountants' (CICA's) Handbook (September 1985). (b) Statement of Changes in Financial Position for Financial Institutions - Accounting Guideline (June 1991) issued by the CICA.
New Zealand	(a) Statement of Standard Accounting Practice (SSAP) No. 10 (October 1987). (b) An Interpretation of SSAP 10 - Interpretation No. 16 (April 1989). (c) Financial Reporting Standard No. 10: Statement of Cash Flows (Revised) (September 1992). All three statements were issued by the Council of the New Zealand Society of Accountants (NZSA).
United States of America	Three Statements of Financial Accounting Standard (SFAS) (a) SFAS No. 95 - Statement of Cash Flows (November 1987). (b) SFAS No. 102 - An amendment to SFAS 95 (February 1989). (c) SFAS No. 104 - An amendment to SFAS 95 (December 1989). All three statements were issued by the Financial Accounting Standards Board (FASB).
United Kingdom	Financial Reporting Standard (FRS) No. 1, issued by the Accounting Standards Board (ASB) (September 1991).
Australia	Accounting Standard No. AASB 1026. Prepared by the Australian Accounting Research Foundation (AARF), approved and issued by the Australian Accounting Standards Board (AASB) (December 1991).
IASC	Cash Flow Statements (IAS 7 Revised) approved by the Board of the IASC (October 1992).

ing practice introduced by standard setters. Little evidence of voluntary disclosure of cash flow reporting as presently conceived existed before standards were set requiring them.

The comparison reveals extensive differences in the structure of the CFSs and the treatment of certain cash flows recommended by the different national authorities and the IASC. Our paper explains the revealed diversity in the regulatory positions on CFSs from the perspective of cultural and environmental differences and the demands of potential users of those standards as construed from their comments on the exposure drafts which preceded the standards. Our paper should be especially useful to regulators, corporate preparers, and academics. For regulators, our paper draws attention to the different requirements facing corporate report preparers in other countries and thus identifies areas in need of harmonization. For corporate preparers, our paper suggests areas in which CFSs can be improved by voluntary disclosure of information that is additional to that required by the standard document. For academics, our paper's content could be useful in teaching international accounting.

The remainder of our paper is organized as follows. The second section provides a brief review of the articles on CFSs published in academic journals and describes the research design and basis for including IASC in this comparison. In the third section, we compare national positions on disclosure and classification issues that are treated in the CFS standard documents of the countries under study with those of the IASC. These issues of common

interest to standard setters around the world form the main thrust of our paper. We also offer some reasons for the revealed diversity in regulatory positions. This is followed by a discussion of issues treated only in the standard documents of one or two countries, a comparison of the national positions and those of the IASC on the issues. This section also deals with IASC's position on topics treated in IAS 7 (revised 1992) but not in the national standard of any of the countries studied. In the concluding section, we discuss some of the potential consequences of maintaining the revealed global diversity in cash flow reporting.

A BRIEF LITERATURE REVIEW, RESEARCH DESIGN AND METHODOLOGY

A Brief Review of the Literature

The literature on cash flow reporting is based on the explanation and criticism of evolving national practices on CFSs such as the potential contradictions in a national standard on CFSs (Nurnberg, 1993) and between standard documents on CFSs and standard documents on other topics. For example, the effects of foreign currency translation on CFSs and the contradictions between the standard on foreign currency translation and the standard on CFSs in the US (Huefner et al., 1989; Hamer and Kistler, 1987, 1990) and in the UK (Georgiou, 1993) have been discussed. Articles have also appeared on the possibility of using figures reported in CFSs to analyze corporate performance (Seed, 1983; Giacomino and Mielke, 1988; Mielke and Giacomino, 1988), on the decision usefulness of CFSs by Australian reporting entities (Jones et al., 1995) and on the implications of the attitudes of U.S. users towards and for the content of CFSs (McEnroe, 1996).

A recent trend is to compare CFSs cross-nationally. This started with the suggestion by Mielke and Giacomino (1987) that IASC and other national authorities should consider including cash flow reporting in their agenda, following the publication of a standard document on the topic in the U.S. by the FASB. From a comparison of the meaning of the 'cash' in national standard documents, exposure drafts and corporate reporting practices on CFSs, Wallace and Collier (1991) conclude that the 'cash' in CFSs is not always 'cash,' whether viewed from the perspective of pronouncements in the standard documents or the perspective of information contained in CFSs published in different countries and industries. Comparing similar documents, Stolowy and Walser-Prochazka (1992) conclude that there are several differences concerning the scope of application, objectives, concept of cash, classification of cash flows, and methods of presenting cash flows from operations.

Research design and methodology

Our substantive purpose is to understand the nature of and reasons for cross-national variability in standard documents[1] from countries that have recently issued pronouncements on CFSs. We consider accounting standards as visible, empirical "products"—pronouncements, or more generally, publicly observable documents that convey the beliefs, values and attitudes of regulatory authorities in each country. We recognize the extreme risk in undertaking a cross-national comparison of regulatory positions which are often affected by numerous irrational and often nebulous variables, such as lobbying, his-

torical evolution, lack of consensus on objectives for regulation, and environmental differences, all powerful determinants of accounting standards. The degree to which each of these factors affects the regulation of CFSs is an empirical issue which cannot all be factored into one study. As a result, we do not provide opinions on the content of the standard documents.[2]

Essentially, we sought to investigate the content of standard documents on CFSs because they represent changes to decades of financial reporting caused by the ostensible desire to better serve the needs of users (see e.g., Jones et al. 1995). To catalogue differences in standard documents on CFSs, each document is studied to discover recommended forms of disclosure, classification and treatment of cash flows, and the underlying reasons for the positions taken by each national authority. Where alternative treatments are recognized in the standard documents and one option is chosen as the preferred one, the reasons for the choice are compared with the reasons given by another country's standard-setting board for making the same choice or is compared with the reasons given by another country's standard-setting board for not choosing the option. To place the standard-setting positions into meaningful contexts, we report on a review of the letters of comments to the exposure drafts which preceded the final standard document(s) of each country.[3] Comparison is limited to those issues reflecting substantive differences among regulatory authorities. As a result, we have not addressed minor differences in the treatment of cash flows relating to taxes, extraordinary items, acquisitions, and disposal of investments in subsidiaries, associates and joint ventures, and segmental disclosures.

Although the countries that form the basis of analysis have self-selected themselves, they are similar in a number of ways, holding relatively constant a number of explanatory factors.[4] Because the sample countries are similar in many respects, we approached the comparison with the expectation that there would be a global consensus on a subject matter as simple as the reporting of cash flows. Unlike the articles by Mielke and Giacomimo (1988) and Stolowy and Walser-Prochazka (1992), we did not treat the US as the archetypal country against which to compare the standard documents of other countries and the IASC for two reasons:

1. Any attempt to posit a theoretical comparative framework would run the risk of seeing unity where there is diversity, either by forging a bland consensus or by making a partial vision stand for the whole; and
2. Regulation on the reporting of cash flows is relatively new (compared to regulation on income flows). Reporting cash flows may be believed by many to be an objective activity that is likely to cause less trouble for regulators than say, reporting income flows from pensions. It is this seeming simplicity that inspires our investigation. If regulators from advanced market economies do not agree on what cash is and on how to account for it, then the much discussed quest for international harmonization of accounting may be a dream.

The inclusion of the IASC in this study requires further explanation. Although the IASC has neither international nor national regulatory mandate for setting accounting standards (Wallace, 1990), its standards have become acceptable as national standards in several countries such as Pakistan, Malaysia, and South Africa.[5] In addition, IAS 7 (revised 1992) received the approval of the International Organization for Securities Commission

(IOSCO) (in October 1993) as a basis for preparing CFSs included in cross-border filings with securities agencies in countries other than those in which the reporting companies are domiciled. IAS 7 (revised 1992) can, therefore, be said to represent the standards of those countries that do not have a systematic and formal policy of setting their own accounting standards and have, in most cases, requested firms operating in their territory to follow IASC's standards. The comparison can thus be seen as that between the five national regulatory bodies and the member countries of IASC that adopt the standards of IASC.

ISSUES DISCUSSED BY MORE THAN TWO NATIONAL AUTHORITIES AND IASC

IASC Definitions of Cash and Cash Equivalents

The national definitions of cash and cash equivalents compared by Wallace and Collier (1991) remain virtually the same since the article was published except for those offered by the IASC that incorporate two revisions. Cash is now defined by the IASC as 'cash on hand and demand deposits' and is no longer 'cash on hand and deposits with banks.' This change was probably introduced to align IASC's definition with those offered by the five national authorities. 'Deposits with banks' may be both too broad and too narrow at the same time. Too broad, because it includes both deposits that are not short-term and are not easily convertible to pure cash. It is too narrow, because businesses place deposits with other financial and non-financial institutions apart from banks.

The second revision refers to the nature of cash equivalents.[6] Apart from agreeing with the national authorities that they are short-term, highly liquid investments, the IASC requires them to be "readily convertible to known amounts of cash and be subject to insignificant risk of changes in value" (emphasis not in the original). It does not give guidance on how to determine the significance or otherwise of exposure to changes in value of a cash equivalent. A company is exposed to changes in the value of a cash equivalent if the accounting (carrying) value of a cash equivalent is higher than its realizable value in the market place. However, the exposure that may be significant to one enterprise may be insignificant to another. It probably comes down to materiality and a question of judgment. The definition of cash equivalents in AAS 28 as highly liquid investments that are "readily convertible to known amounts of cash at the investor's option and [used] in the cash management function on a day-to-day basis" distinguishes the AASB from standard-setting bodies from other countries. No guidance is given on how to determine the meaning of "readily convertible to known amounts of cash" but the AASB requires a reporting company to be consistent in its use of an operational definition of highly liquid investments that are readily convertible to known amounts of cash, once it has established one. But the items that constitute highly liquid investments that are readily convertible into known amounts of cash will probably vary from one company to another. While three national authorities disallow reporting enterprises a choice in the matter of what may be categorized as cash equivalent, the FASB, the AASB, and the IASC allow them choice and flexibility. Apart from the international inconsistency in what may be regarded as cash, both IAS 7 (revised 1992) and AAS 28 have also created the prospect of intra-national inconsistency in what reporting enterprises in countries which adopt IASC's standards as national standards may regard as cash.

Categorization of Cash Flows

The cash resources (cash and cash equivalents) available to an enterprise increase or decrease in response to the activities of the enterprise. If these activities can be satisfactorily categorized, it would seem logical to present, in CFSs, information relating to each category, so that comparability can be enhanced and the relationships among these categories can be evaluated. In addition, standard setters expect classified information on cash flows to be more helpful to users. As the FASB suggests in paragraph (¶) 20 of its Concept Statement No. 5 (Recognition and Measurement in Financial Statements in Business Enterprises):

> Classification in financial statements facilitates analysis by grouping items with essentially similar characteristics and separating items with essentially different characteristics. Analysis aimed at objectives such as predicting amounts, timing, and uncertainty of future cash flows requires financial information segregated into reasonably homogeneous groups.

Cash flows are generally classified into three activities—operating, financing and investing. The basis for classifying cash flows by operating, financing and investing activities probably derives from the finance theory (Nurnberg, 1993) which suggests that enterprises derive the cash used for *investing activities* and settlement of outstanding financial obligations in an accounting period from internal and external sources. Internal cash resources emanate from the net cash generated from *current operations* and perhaps disinvesting and the depletion of the cash resources at start of the period. External cash resources come from *financing activities* such as borrowing, and receiving cash from the sale of equity shares to existing and new shareholders. The five national authorities and the IASC seem to recognize these three activity types although each gives different emphasis to the need for reporting enterprises to adhere strictly to this categorization scheme in presenting their CFSs.

To some national authorities and the IASC, the categorization of cash flows into operating, investing, and financing is not immutable and the categories are not mutually exclusive. For example, some transactions may produce cash flows that refer to more than one activity type. When the cash repayment of a loan includes both interest and principal elements, the interest element may be classified as an operating activity and the capital element classified as a financing activity (by the borrower) or investing activity (by the lender) (IAS 7 (revised 1992), ¶ 12). The interest element may also be classified as a financing or investing activity rather than an operating activity under IAS. The contentious nature of items, such as interest and dividends (discussed below), has led regulators in the United Kingdom to specify that these items be classified under categories separate from operating, financing and investing.

While all the regulatory authorities recognize implicitly the interchangeability, within the three categories, of cash flows from specific transactions, only Australia acknowledges explicitly in its document on CFSs that the three categories are not immutable. According to the Australians, the categories of operating, financing, and investing will not always be sufficient or appropriate to indicate the nature of the cash flows of a company or economic entity (AASB 1026; ¶ 14; p. xx). In the United Kingdom, where more than the three categories are suggested, preparers of CFSs are allowed to vary the classification and hierarchy of the categories indicated in the pronouncement on CFSs in the extremely rare

circumstances where this format would not be a fair representation of the activities of the reporting entity (UK's FRS 1; ¶ 13).[7] In some enterprises, a blanket category such as operating activity may not convey the true nature of multi-product, multi-operational enterprises. Because some events and transactions may combine cash flows of an investing and financing nature, grouping together cash flows related to the same event or transactions may be more relevant and may obviate the need to evolve irrational rules for categorizing these flows into investing and financing.[8] Examples of such cash flows are those associated with asset acquisitions, discontinuing businesses, expansion programs, and capital restructuring.[9]

Finally, all pronouncements (from the five countries and the IASC) seem to suggest that the categorization of cash flows into three or more activity types is superior, and not supplementary, to the traditional 'sources and uses' format. Cash inflows may be more meaningful when their sources are identified, while cash outflows are simply uses of cash and cash equivalents. There is nothing stopping the presentation of cash flows from operating, financing and investing activities in the sources and uses format. In fact, many cash flow statements from across the world are adopting this approach.

The Format of Cash Flows from Operating Activities

The five national pronouncements on CFSs, and IAS 7 (revised 1992) identified two methods of presenting (in CFSs) information of cash flows from operating activities: direct and indirect. Direct means to report in a straight-forward manner by revealing how much cash and cash equivalents came in from customer collections and how much went out in the form of payments to suppliers, employees, and other outside entities for goods and services. Indirect means not to follow the trading or operational sequence but to arrive at the net cash flow from operations by working backwards from net income. However, unlike the national pronouncements, IAS 7 (revised 1992) permits two formats of presenting each of the two methods. The alternative methods are included in the document in recognition of the French style of presentation.[10] The direct method of presenting cash flows from operations (common to all regulatory authorities) requires preparers to alter their accounting systems so that they can extract gross receipts and gross payments of cash flows from operations. Under the alternative direct method approach (recommended by IASC), preparers can keep their old accrual accounting systems but would seek to convert the figures for sales, cost of sales, and other items in the income statement into gross cash receipts and payments by adjusting them for changes in inventories, operating receivables and payables, other non-cash items and other cash effects that relate to investing and financing activities [IAS 7 (revised 1992), ¶ 19 (b)]. This is the French direct method (Stolowy and Walser-Prochazka, 1992, 194).

The indirect approach to reporting cash flows from operating activities, recommended in the standard documents of all national authorities and the IASC, is to adjust the net profit or loss for (1) the effect of non-cash transactions, (2) any cash receipts and payments unrelated to the reporting year and (3) items associated with investing and financing activities that were incorporated in the profit or loss figure. An alternative indirect approach to presenting net cash flow from operating activities (suggested in IAS 7; revised 1992) is to start with the revenue and expenses disclosed in the income statement

and adjust them for the changes during the period in inventories and operating receivables and payables. It is difficult to distinguish between this approach to presentation (as described in IAS 7 (revised 1992), ¶ 20) and the French direct method.

The options open to a regulatory authority are (1) to mandate the direct method only, with or without the need to reconcile the net cash flow from operation with the net income figure; (2) to permit the use of either the direct (with or without reconciliation) or the indirect method; or (3) to require the indirect method with direct method proof of operating cash flow. Table 2 shows the position of the regulatory authorities.

Unlike some national authorities, IASC does not require direct method preparers to reconcile net income to net cash generated from operating activities. From the viewpoint of preparers, this position is preferable, because requiring such a reconciliation essentially forces direct method preparers to assemble both a direct and an indirect statement. Advocates of the direct method argue that the indirect method is more of an arithmetical proof of net income than it is a statement of cash flows. Some would suggest that the argument in support of this method arises from the fixation of preparers to the method inherited from the former SCFP (funds flow statement) and from relative savings in the cost and time of preparation. This indirect method will probably hold less weight as automated systems continue to improve.

Some advocates of the indirect method argue convincingly that it is more informative than the direct method because it (1) emphasizes the build-up (liquidation) of receivables (payables, inventories, etc.), thereby explaining the difference between net income and operating cash flow and (2) keeps management honest, i.e., it reduces the ability of management to manipulate the income statement numbers without notice by report users. No doubt, both direct and indirect presentations are informative, but in different contexts. Perhaps both should be required rather than one or the other.

While IAS 7 (revised 1992) encourages enterprises to report cash flows from operating activities through the direct method, it does not suggest that the method should be the

Table 2. National Positions on the Presentation of Cash Flows from Operating Activities

Alternative ways of presenting cash flows from operations	*IASC*	*Australia*	*Canada*	*New Zealand*	*UK*	*USA*
Direct Method with reconciliation*	Not Required	Mandatory since June 1992	Not Required	Mandatory since July 1992	Optional	Optional
Direct Method without reconciliation	Optional	Not Allowed	Optional	Mandatory between Jan 1988 and June 1992	Not Allowed	Not Allowed
Indirect Method with reconciliation	Optional	Not Allowed	Optional	Not Allowed	Optional	Optional
Location of reconciliation on the face of the CFS	Optional	Not Applicable	Optional	Not Applicable	Optional	Optional
Location of reconciliation n notes to the CFS or to accounts	Optional	Mandatory	Optional	Mandatory	Optional	Optional

Note: *This refers to the reconciliation of net operating cash and cash equivalents flow to the operating net income after tax as reported in the income statement.

benchmark treatment, as the IASC's statement of intent on the comparability and improvements project (1990) indicates would be the practice. It is not enough for the IASC to be equivocal on this issue when it is convinced that one method is better than the other and the goal of its improvements project is to reduce managerial flexibility in financial reporting and serve the needs of users for more relevant information. With the exception of the two Australasian countries, managerial discretion is allowed in the choice of the method for reporting information relating to cash flows from operating activities provided they adhere to the consistency principle of not changing that choice without providing a reason for the change.

The standard document in Australia and New Zealand mandate the use of the direct method of presenting cash flows from operating activities. According to the Australian standard (AASB 1026; Commentary; p. xxvi)

> This [direct] method provides information that is not otherwise available in the balance sheet and profit and loss account. It provides a more useful basis for estimating future cash flows than a method of presentation which discloses only the net amount of cash flows from operating activities and does not report the individual components of cash flows from operating activities.

In addition, the direct method is claimed to be much preferred by one group of users—bankers (Heath, 1987; Klammer and Reed, 1990). For example, as revealed later, 137 of 154 banking and financial institutions that responded to FASB's invitation to comment on the its Exposure Draft # 23 that preceded SFAS 95 preferred the direct method (see Table 3). The recurrent and annual cost of translating the indirect statement of cash flows from operating activities to the direct method of presentation, most useful to lenders, may outweigh the initial and running costs which preparers of annual reports would have to incur to issue the direct method CFSs from their accounting systems.[11]

Several behavioral implications may arise from the pronouncements on CFSs. The preceding discussion has shown that diversity exists in how national authorities and IASC expect reporting enterprises present information on operating cash flows. A definitive explanation of the causes of this diversity cannot be given without information on what regulators in each country considered before arriving at their respective positions. However, reasonable theoretical explanation of the reasons for the differences can be made by considering the comments on the exposure drafts preceding the issue of the standard documents. The behavior of standard-setting authorities has a dynamic which must be

Table 3. National Preferences for the Three Method of PresentingOperating Cash Flows within the CFS

	Total Respondents	# for Direct	# for Indirect	# for Choice
Australia	38 (3)	27 (1)	4 (0)	7 (2)
New Zealand	54 (2)	48 (0)	5 (2)	1 (0)
UK	74 (10)	32 (5)	18 (1)	24 (4)
USA	322 (154)	172 (137)	87 (12)	63 (5)

Notes: The figures in parenthesis represent the choices of the banking and financial institutions. Other respondent groups included in the total are independent auditing firms corporate reporters, academicians, government and state regulatory institutions, private individuals and other institutions.

The Accounting Standards Committee of the Canadian Institute of Chartered Accountants did not give potential respondents the opportunity of indicating which of the available methods they would prefer.

analyzed. Given the striking similarities in the business environments of the five countries in this study, it might be logical to expect regulation and reporting practices on CFSs in these countries to be more similar than different. But this is not the case. If there is so much difficulty with setting reporting standards on a straight-forward item like cash flows, it is little wonder that even more substantive issues are encountered in relation to inventories, research and development, leases (Mueller et al., 1994, p. 21).

An essential question to answer as to the differing positions in CFS standard documents is: Which approach to standard-setting is better to adopt, the normative or the pragmatic? With a normative approach, a standard-setting authority would see itself as an idealized rational decision-maker that uses knowledge to seek tirelessly the best possible choices in terms of what is perceived to be the theoretically correct options.

The normative approach also assumes that standard-setters' choices would be free from value judgment. But standards are invariably determined by the standard-setters' perception of what is practicable, rather than ought to be. The adoption of the pragmatic approach is a recognition of the difficulty of the overly idealized choice dynamic of the normative approach and of the need to embrace the principle of bounded rationality suggested by Simon (1957). Standard-setters' choices are made within the bounds of their own imperfect knowledge. According to Cyert and March (1963), individuals and groups do not seek tirelessly for some optimum behavior, instead they seek only for an adequate (or satisficing) alternative.

Normatively, those who favor the direct method of presenting cash flows from operations argue that the method could serve the end-user better than the indirect method. Indirect method advocates also argue normatively to the contrary. However, all (regulatory authorities) suggest that the direct method would provide more helpful information to users than the indirect method. But the pursuit of a normative approach by a standard-setting authority may require the possession of institutional legitimacy, such as a clear statutory mandate (Johnson and Solomons, 1984, pp. 172-179) and/or overwhelming support by constituents. This legal mandate is available to the standard-setting authorities in Canada, Australia and the United Kingdom (when the relevant CFS document was issued) and in the United States indirectly from the Securities and Exchange Commission. The New Zealand standard-setting authorities and the IASC are committees of the accounting profession with no legal mandate.

Of the countries whose standard-setting authorities had a direct or indirect legal mandate, only Australian standard setters chose the normative approach, and mandated the direct method. The standard setters in Canada, the United Kingdom and the United States chose not to do so (and permitted corporate reporters to choose between the direct and indirect formats). This is probably because standard setters in these countries were obliged to revise their earlier positions, following objections that were raised by affected constituents.[12] Although the New Zealand standard-setting authority did not have a statutory mandate by the time its CFS standard document was issued[13] and was, therefore, probably not in a position to adopt the normative posture, its choice of the direct method was helped on by the overwhelming preference of its constituencies for the method. The preference for the direct method in New Zealand might also have been facilitated by the earlier position taken by the Australian standard-setting body and its constituencies.

The decision by standard-setting authorities to permit corporate reporters to choose between the direct and indirect methods must presumably have been underpinned by the

expectation that practice would move voluntarily towards the preferred direct method. However, few companies would voluntarily adopt the direct method because it requires them to change their reporting style and to disclose sensitive information about their actual cash flows. We investigated whether the presumed movement from the indirect to direct method did in fact take place through an examination of the cash flow reporting practices in the annual reports and accounts for 1992 and 1993 of 320 publicly listed U.K. firms. The results of this survey, compared with those reported for 300 Canadian firms by the Canadian Institute of Chartered Accountants (1993) and for US firms by the AICPA's *Accounting Trends and Techniques* (1994),[14] are reported in Table 4. The table reveals a significantly low adoption rate for the direct method over a two-year period (for the UK), a three-year period (for Canada) and a four-year period (for the US). The low adoption rate has implication for standard-setting in these three countries. It suggests, for example, that when corporate reporters are allowed discretion, they prefer not to change their reporting practices to the one that is perceived as beneficial to end users but considered by them as costly to implement.

There is also the potential for users of CFSs to believe that positive and large figures of net cash flows from operations are 'good' and other net cash flows patterns [positive and small, and negative (large or small)] are 'bad.' According to Dugan, Gup and Samson (1991, p. 38), if a business fails ultimately to generate a healthy net cash flow from operating activities, it will fail. Because expansion of businesses often requires increased working capital investment, CFSs will reflect badly on businesses in a growing phase and favorably on those in a stagnant or declining phase. As Most (1992, p. 211) notes, a growing firm that must extend credit can have a permanent operating cash outflow problem, whereas a firm that is on the road to bankruptcy and is liquidating assets can have a positive cash flow from operations. In the short run, expansion of business often requires increased investment in inventory and receivables and for businesses that are working capital intensive as opposed to fixed asset intensive, CFSs may lead analysts to incorrect conclusions. As a result, care is required in the interpretation of CFSs. In addition, the value of CFSs could be enhanced by a narrative explanation.

Interest and dividends

There is an apparent similarity in the recommended classification of cash receipts and payments of interest and dividends in the standard documents of Canada, New Zealand

Table 4. Adoption of the Direct Method of Reporting Operating Cash Flows in Canada, the United Kingdom and the United States*

Countries	*Canada*			*The USA*				*The UK*	
Number of firms in the sample	300			600				320	
Years of observation	1990	1991	1992	1990	1991	1992	1993	1992	1993
Number of firms adopting the direct method	3	3	4	15	15	15	15	4	8
Rate of adoption	1%	1%	1.33%	2.5%	2.5%	2.5%	2.5%	1.25%	2.50%

Notes: *Information on Canadian firms collected from CICA (1993, p. 213) and on US firms from AICPA (1994, p. 472). The data relating to UK firms are gathered from the source identified in footnote 8.

In the USA, companies using the direct method usually present the reconciliation of net income to net cash flow from operating activities as a schedule at the bottom of the SCFs or on the page adjacent to the SCFs. Companies using the indirect method usually present the reconciliation within the SCFs (AICPA 1994, p. 472).

Table 5. National Positions on the Classification of Interest and Dividend in Cash Flow Statements

	Interest Received	*Interest Paid*	*Dividends Received*	*Dividends Paid*
Canada	Operating	Operating	Operating	Financing
New Zealand[a]	Operating	Operating	Operating	Financing
USA	Operating	Operating[b]	Operating	Financing
IASC and Australia	Interest and dividends, received and paid, should be classified in a consistent manner from period to period and each separately disclosed as one of operating, investing or financing activities			
UK	Interest and dividends (both received and paid) should be classified into a separate category described as 'returns on investments and servicing of finance'			

Notes: [a] Dividends paid in respect of debt finance (e.g. Preference shares) is required to be classified as an operating expense. In the 1987 New Zealand pronouncement, interest and dividends received are required to be treated as investing activities while interest and dividends paid are to be classified as financing activities

[b] SFAS 95 permits interest paid and included as part of the cost of an asset to be classified as an investing activity

and the U.S. Underlying this apparent similarity are subtle differences noted in the footnotes to Table 5.

Australia and the IASC permit a great amount of managerial discretion in the classification of interest and dividends. The United Kingdom did not take a position on whether interest and dividends received and interest paid are operating or investing activities and on whether dividends paid should be investing or financing activities.[15] Rather, these cash flows are required to be shown separately, in the U.K. as 'returns on investments and servicing of finance.'

The argument in IAS 7 (revised 1992) for requiring that cash receipts and payments of interest and dividends to each be disclosed separately and be classified in a consistent manner from period to period as either operating, investing or financing activities (¶ 31) is based on the fact that there is no global (universal) generally accepted way of classifying interest and dividends received and interest paid (IASC's ED 36, ¶ 34). While it may be correct to state that there is no universally (globally) agreed basis for classifying interest and dividends, it does seem inappropriate to use this as a reason for equivocating on the matter. There are only five countries with standards on the topic and only the U.K. currently requires classification of interest and dividends into a group different from operating, investing and/or financing activities. The FASB requires these cash flows (interest and dividends received and interest paid) to be classified as operating activities because it is the predominant practice in the United States. In addition, a lack of consensus has not prevented the IASC from selecting one accounting treatment as the only allowed treatment in other areas, or from suggesting that it hopes to designate one treatment as the benchmark in its improvements program (IASC 1990). Separate disclosures of interest and dividends paid and received are required in Australia, New Zealand, the United States and by the IASC. With the exception of 'dividends paid' that is required by other pronouncements, the Canadian document on CFSs does not require separate disclosure of cash flows from interest and dividends.

The classification of interest and dividends depends on the nature of the reporting company and the definition of operating activities. If operating activities are defined as those relating to the delivery or production of goods and services or other activities that are integral to the entity's ongoing major or central operations, then operating cash flows should

be distinguishable from investing and financing cash flows. If the expectation of standard setters for requiring disclosure of cash flows from operations is to allow users to evaluate a reporting entity's ability to generate adequate cash through its main operating activities, and if investment income in the form of dividends and interest received is tangential and supplemental to providing goods and services, it seems to us that it should not be included in cash flows from operating activities. In this regard, cash flows relating to interest and dividends would be outside the ongoing or central operations of an entity that is not in investment-related activity such as a bank, pension fund, and insurance company.

An appropriate classification of interest and dividends depends (a) partly on how the standard setters' view of the reporting (that is whether corporate reporting should be based on entity or the proprietary concept); and (b) partly on whether capitalization of borrowing costs is permitted in a country. On the first issue, dividends paid to majority shareholders (not to minority shareholders) would probably not be considered as an operating activity under the proprietary concept. On the second issue, interest payment that forms a part of the cost of capital will qualify for classification as an investing activity. Absent environmental differences and different legal mandate (discussed later), if national accounting standard-setting bodies hold different views on the definition of the reporting entity (or do not explicitly state their definition) and on the capitalization of interests, then different classifications will result.

Foreign Exchange

Pronouncements on the treatment of effects of foreign exchange on cash flows relate to the treatment of (1) transactions in foreign currencies by resident firms, (2) translation of the cash flows of foreign subsidiaries when consolidating the accounts of the parent with those of the subsidiaries and (3) the effect of changes in foreign currency exchange rates on cash balances held in foreign currencies. The permitted treatments in each country are summarized in Table 6.

The UK requires cash flows of foreign subsidiaries to be translated, using the basis for translating the results of foreign operations in the profit and loss accounts of the parent (reporting) entity (FRS 1, ¶ 36). The Australian standard on CFSs specifically requests that cash flows denominated in a foreign currency are to be reported in a manner consistent with the standard on foreign currency translation (AASB 1026, Commentary xxvii). Similar provisions on the consistency between rate for CFS foreign currency translation and rate for translation of the results of foreign operations in the profit and loss account are contained in the standards of the IASC and the FASB. However, the quest for consistency in the rate for translating the results of foreign operations in the profit and loss account and foreign cash flows in the CFS by each standard-setting body has not resulted in the international harmonization of the method for translating foreign currency cash flows. This is because the UK allows reporting companies choice between closing and weighted average exchange rates for translation in the profit and loss while the AASB, the IASC, and FASB proscribe the use of closing rate for translating profit and loss items. Instead, the exchange rates in effect at the time of cash flows (not the time of the underlying transactions) or an appropriate weighted exchange rate for the period shall be used for translating the cash flows if the result is

Table 6. National Positions on the treatment of Foreign currencies in CFSs Practice

	AUSTRALIA	*CANADA*	*NEW ZEALAND*	*UK*	*US*	*IASC*
Changes in exchange rates						
1 Effect of exchange rate changes on cash held or due in foreign currencies should be reported as a separate item in the reconciliation of the opening and closing balances of cash and cash equivalents.	YES	YES	YES	N/S	YES	YES
2 Changes in foreign currency exchange rates resulting in unrealized variations on items other than cash are not to be treated as cash flows.	YES	YES	YES	N/S	YES	YES
Translation of foreign currency transactions						
1 Use historic rate method (i.e., rates at date of actual cash flows not date of transactions).	YES	YES	YES	N/S	N/S	YES
2 Use weighted average method.	YES	YES	YES	N/S	N/S	YES
Translation of foreign subsidiary cash flows						
1 Use historic rate method	YES	YES	YES	YES	N/S	YES
2 Use closing rate method	NO	NO	NO	N/S	YES	NO
3 Use weighted average method	YES	YES	YES	N/S	YES	YES

Note: N/S = No position is specified in the standard document of the country.

substantially the same as if the rates at the date of the cash flows were used (IAS 7 (revised 1992), ¶ 27; AASB 1026, ¶ 23; SFAS 95, ¶ 25). Although all the standards on CFS have reduced significantly the reporting flexibility in respect of foreign currency cash flows, the comparability of multinational corporations (MNCs) registered under the UK Companies Act among themselves and with foreign counterparts remains unattainable. While MNCs registered in other countries would translate their foreign currency cash flows, using actual exchange rates or weighted average rates, UK registered MNCs would use only the one specific rate used for translation in the profit and loss account (Georgiou, 1993, 233 footnote 5).

Non-Cash Transactions

Non-cash transactions include acquisition of an entity by means of equity and/bond issue, debt-equity conversion, obtaining an asset by incurring a mortgage to the seller or entering into a finance lease, exchange of non-cash assets or liabilities for other non-cash assets or liabilities, counter-trade or trade by barter, roll over transactions such as when a certificate of deposit or loan is renewed at maturity, all of which will have a significant

impact on future cash flows. The effect of these non-cash transactions may be similar to a cash inflow followed immediately by a cash outflow, or vice versa. Non-cash transactions are usually not trivial commitments, but they do not form part of the CFS. As a result, in the movement from SFCP (or funds flow statement) to CFS, information on non-cash transactions which, theoretically, do not constitute actual cash flows may be lost. As the Canadian document suggests, these [non-cash] transactions which are part of the financing and investment activities of an enterprise, affect its capital and asset structure and therefore need to be disclosed (CICA, 1985, Section 1540, ¶ 20).

The Canadian and UK documents require disclosure of major non-cash transactions that are likely to affect the cash resources of an enterprise in notes to the CFS. IAS 7 (revised 1992) (¶ 43) requires, in the same manner as the remaining national authorities, that non-cash investing and financing transactions be excluded from a CFS but disclosed elsewhere in the financial statements, in a way that provides all the relevant information about them. In contrast, such disclosures are required in the U.K., in respect of all material non-cash transactions (that is, they are not limited to financing and investing activities). One reason for excluding non-cash transactions from the body of CFSs is because they do not involve cash flows in the current period (NZSA's FRS 10, ¶ 5.37).

Financial Instruments

An innovative response to the volatility in the commodity, assets, and financial markets and the changing nature of contracts in these markets is the development of financial instruments for coping with changes in commodity (market) prices, variable interest and foreign exchange rates, varying maturity dates, and the need for more security backing than presently available. These financial instruments include: forward, option and swap contracts; adjustable rate convertible notes; guaranteed subordinated capital notes and collateralized mortgage obligations. These instruments may be acquired and held by an enterprise as general hedges for speculative purposes or as hedges of a specific nature. All hedges that are not specific in nature are treated as speculative (or general) and are presumed to be held as 'dealing or trading' securities.

Dealing or Trading Securities

IASC and FASB are the only two that included pronouncements on the treatment of dealing and trading securities in their standard documents on CFSs. IAS 7 (revised 1992) suggests in ¶ 14 (g), as the FASB's SFAS 102,[16] that cash receipts and payments from securities held for dealing or trading purposes should be treated as cash flows from operating activities. This is because the holding of securities and loans for dealing or trading purposes is similar to the holding of inventory for resale (IAS 7 (revised 1992), ¶ 15). As FASB suggests, to qualify as an inventory, a 'dealing' or trading security should not only be acquired for resale, it must also be turned over rapidly, and accounted for at market value or lower of cost or market value (SFAS 102). Examples of dealing and trading securities include credit card receivables, purchases and sales of

securities in a trading account of a bank or a broker or a dealer in securities or those referred to as market makers (Macve and Jackson, 1992).

Specific Hedges

A specific hedging transaction can be treated (1) as separate from the transaction or position being hedged or (2) as an integral part of the transaction being hedged. IAS 7 (revised 1992) adopts the second option by stipulating that the cash flows of a contract accounted for as a hedge of an identifiable position should be classified in the same manner as the cash flows of the position hedged. This is the requirement in the UK (FRS 1, ¶ 37) and New Zealand (FRS 10 (revised), ¶ 4.17). The Canadian standard document is silent on this issue. Originally, the FASB adopted (in SFAS 95) the first option and concluded that hedge contracts should be treated according to the nature of the contract's cash flows. Following a reconsideration, the FASB now also permits (in SFAS 104) the second option; the classification of cash flows from future contracts, forward contracts, option contracts, or swap contracts that are accounted for as hedges of identifiable transactions in the same manner as the items being hedged. The Australian pronouncement distinguishes between the method of accounting for hedges. When a transaction is accounted for as a hedge of another transaction, the Australian standard requires that the cash flows relating to the hedge transaction should be classified in the same category as the cash flows relating to the transaction being hedged (the second option and IASC's position). However, cash flows relating to a hedge transaction that is not accounted for as such should be determined by the nature of the transaction itself and thus will not automatically be identical to the classification of the cash flows pertaining to the underlying item (the first option). In comparison, the IASC and the Australian standard permit no flexibility for specific hedge contracts while the US standard permits flexibility.

Distinguishing Capital Expenditure

While it does not mandate it, IAS 7 (revised 1992), [¶ 49 (c)] encourages reporting entities to provide information about the 'aggregate amount of cash flows that represent increases in operating capacity separately from those cash flows that are required to maintain operating capacity.' The Canadian standard also offers the same recommendation. According to paragraph 1540.17 some may prefer to classify certain capital expenditure items, such as regular replacements of fixed assets, as an operating activity rather than an investing activity. FASB decided against such separate disclosure because of the substantial implementation difficulty it would create (SFAS 95, ¶ 99). It is increasingly difficult to define precisely operating capacity. It is unclear whether operating capacity would include assets that are not essentially production related, but are significant for promoting the corporate overall image. Similarly, Lee (1984, p. 118) suggests that cash outflows relating to research and development, renovation, and advertising may be classified as operating or investing activities. Whatever allocation arises from the need to follow IASC's recommendation would be subjective and would weaken comparability of CFSs carrying such information.

Performance Indicators Based on Cash Flows

While all regulatory bodies discussed the issue of cash flow per share in their Exposure drafts on CFSs only two countries took a position on the wider issue of using figures in CFSs to measure corporate performance. The standard-setting bodies from two countries (New Zealand and the U.S.) that discussed and made pronouncements on the topic disagree on the issue. On the one hand, although the U.S. does not discuss the general topic of performance measures, it proscribes the reporting of cash flow per share. The reasons for doing so include (a) lack of knowledge on the most suitable mechanism for making such calculation; and (b) the potential for confusing cash flow per share as an alternative to earnings per share (SFAS 95, ¶ 122-25). On the other hand, the New Zealand standard, which does not explicitly require the reporting of cash flow per share, favors the reporting of performance measures based on CFS. According to the document, because cash flows are not influenced by subjective cost allocations which affect reported income, cash flow information can improve comparability between financial reports of different entities. The document recommends the construction and disclosure of a number of useful ratios from CFSs (NZSA FRS 10, ¶ 5.5 and ¶ 5.6). The ratios suggested include:

a) Interest or dividend cover in cash flows from operating activities;
b) Ratio of current and long-term debt to cash flows from operating activities;
c) Ratio of cash from customers to turnover; and
d) Ratio of cash flows from operating activities to reported net surplus.

Disclosure of cash flow ratios computed by reporting enterprises is favored by some practicing accountants and the academic community in the U.S. and the U.K. (Largay, III and Stickney, 1980; Seed, 1983; Logue and Tapley, 1985; Giacomino and Mielke, 1988; Mielke and Giacomino, 1988; Kimmel et al., 1989; Davies, Paterson and Wilson, 1992). The mechanism and appropriate manner of using numbers in CFSs to prepare performance ratios are evolving. Kochanek and Norgaard (1988) describe how one can use trends in cash flows from operations in assessing a firm's financial flexibility, while Mielke and Giacomino (1988) and Giacomino and Mielke (1988) suggest useful cash flow performance ratios that can be calculated. Cash flow performance ratios are becoming popular items of disclosure in corporate annual reports released in many of the study countries. For example, many UK companies provide cash flow per share information, although FRS 1 does not require its disclosure (Davies, Paterson and Wilson, 1992, p. 1251).

Unused Credit and Loan Facilities

Only Australia [AASB 1026, ¶ 25 (a)] requires the separate disclosure of a reporting company's credit standby arrangements, including the nature of each arrangement and the total amount of credit unused. Australia also requires a summary of the used and unused loan facilities and the extent to which these can be continued or extended. While IAS 7 (revised 1992) does not go as far as suggesting that information on credit standby arrangement be given as a note to CFSs, it encourages the disclosure of the amount of unused

borrowing facilities that may be available for future operating activities and to settle capital commitments, indicating any restriction on the use of these facilities [¶ 50 (a)].

Restricted Cash and Cash Equivalents

Restricted cash and cash equivalent may arise because of exchange controls, foreclosure on cash resources by donor(s), government(s), creditor(s), and/or management (because cash and cash equivalents are available for a specific purpose). The observation made by Wallace and Collier (1991, 50), that standards and exposure drafts on CFSs issued before June 1991 were silent on the issue of restricted cash and cash equivalents has been taken care of by New Zealand and IASC who have issued standard documents on CFSs since September 1991. Both standard-setting bodies mandate the disclosure of amounts of significant cash and cash equivalent balances that are restricted together with a commentary by management. In the US, SFAS 117 recommends the disclosure of donor restricted cash and cash equivalents while the SEC requires the disclosure of compensating balances.

CONCLUSION

A major theme of this paper is the terminological and procedural variation in regulatory recommendations for preparing and interpreting CFSs in five countries and the IASC. All the standard documents agree that the CFS should report information on actual cash flows in the period. Each standard document recommends and seeks to operationalize the reporting of realized cash inflows and outflows recommended by Lee (1972). As presently suggested in standard documents around the world, reporting enterprises are expected to disclose, on the face of CFSs, information on the cash flow effects of past transactions on current cash resources (cash and cash equivalents), but not on non-cash aspects of these transactions.

The results of this cross-national comparison of standards of CFSs indicate that cash and cash equivalents may not be the objective constructs that the cash flow enthusiasts suggest they would be. In this respect, the standard-setting positions on CFSs around the world have confounded theory. The IASC and the national authorities in the five countries are not agreed on such things as the definition of cash and cash equivalents, how to classify cash receipts and payments of interest and dividends. They do not also agree on the manner of presentation and determination of net cash flow from operating activities. With the exception of Australia and New Zealand, managerial discretion is allowed in the choice of presentation format and as a result, it seems likely that comparability of CFSs within and across countries and industries would be difficult to attain. The IASC has failed to make definitive pronouncements on many of the issues on which national authorities disagree.

When corporate reporting regulators from across the world issue pronouncements which differ on how enterprises headquartered and/or located in different national jurisdictions report the cash flow effects of similar transactions, cultural relativity is enhanced but global harmonization of accounting practices and cross-national comparability of cash flow statements is not. Enterprises reporting in multiple jurisdictions and those that prepare consolidated cash flow statements of global operations incur additional costs of

reporting cash flows due to different national standards. Users that desire to compare corporate annual reports of enterprises located in different jurisdictions incur additional costs in making such reports comparable.

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NOTES

1. We did not examine proposed changes to these standard documents since changes proposed in any exposure draft may themselves undergo substantial changes before the extant standard document is revised. As a result, our comparison does not include the contents of the financial reporting exposure draft (FRED) issued by the ASB, in January 1996, in the United Kingdom which proposes changes to FRS 1 (FRED 10). However, the proposals to change FRS 1 which are relevant to issues under consideration are footnoted as necessary.
2. To do so would be to take on the role of standard setters. There is no basis for us to make such personal choices. We do not have at access to all the materials which each national authority and the IASC used to arrive at their positions. Even if we do, such information would be available to us only after the event. As a result, our opinions on what standard setters should have done would be offered without a full understanding of the context in which such decisions were made. We believe that until one has sat in a standard setter's seat it is not easy to grasp the range of considerations that influence a standard setter's decisions. Rarely is a final standard any individual standard setter's first choice. As a result, suggestions for change are easy to make but often are not really helpful because they do not reflect the interplay of views and arguments from a variety of perspectives that precede the issuance of a standard.
3. The countries were selected because they are the only countries from where comments germane to our enquiry were elicited from constituents by standard-setters who have also put these comments in the public domain.
4. All are, and have for many years been, politically stable capitalist democracies. They all have active stock markets and take part in international movement of goods and finance. They share cultural traditions of business, banking and finance.
5. South Africa had a national standard on CFS (Statement of Generally Accepted Accounting Practice-AC 118), issued by the South African Institute of Chartered Accountants (SAICA), from 1988 to 1994 when the SAICA decided to discontinue issuing local accounting standards and to commence adopting IASs (including IAS 7; revised 1992). As a result, the SAICA's standard document on CFS is not included in our study.
6. FRED 10 proposes to change the CFS into a pure cash flow statement by dropping the concept of cash equivalents. In order to provide improved information on treasury activities, FRED 10 intends to introduce a new section on the management of liquid resources to enable the CFS to focus on the effect of cash flows on the widely used net debt financial indicator. This is because "as treasury management practices vary, the definition of cash equivalents has presented difficulty" (FRED 10).
7. Under Rule 203 of US GAAP, departures from FASB standards are permitted in admittedly rare circumstances where otherwise the financial statements would not be a fair representation. However, the departure must be disclosed in the notes to the financial statements and the auditor's report. See AICPA Professional Standards, Vol. 1, Section AU411.07. Thus, US standards are similar to those of the United Kingdom.
8. However, by grouping investing and financing activities in one residual category, a reporting company would approximate the cash concept of funds in the old sources and uses statement of changes in financial position.

9. The requirement in the United Kingdom that the income statement (profit and loss account) reflects aggregate results of each of continuing operations, acquisitions (as a component of continuing operations) and discontinued operation (FRS 3-Reporting Financial Performance) has probably had a flow-over effect on FRED 10 which proposes that reporting companies in the UK should divide 'investing activities' into separate headings for 'capital expenditure' and 'acquisitions and disposals' during a reporting period (FRED 10 ¶ 7).
10. The French guideline on CFSs was recommended, in October 1988, by the French Ordre des Experts Comptables et des Comptables Agréés (OECCA) and not issued by the standard-setting authority in the country. Therefore, the guideline lacks unfettered acceptability by preparers and users of accounts and the detailed documentation which are qualities possessed by the standards from the five countries selected for study. As a result, the French guideline is not included in our study.
11. It is essential to realize that the argument is of a better method of presenting information on cash flows from operating activities, not on whether the cash-basis accounting is better than accrual accounting. On this point, Kwon (1989) has argued that, subject to relative costs, accrual accounting is superior to cash-basis accounting in an agency setting with moral hazard. This is because accrual accounting information more fully reflects the overall effects of management decisions on future cash flows than cash flow realizations in any given period.
12. For example, FASB's earlier position of wanting to mandate the direct method which arose from the overwhelming support from banking and financial institutions who were early responders to FASB's call for comments on Exposure Draft # 23 was changed. If the votes of the banking and financial institutions were excluded the preferences recorded in Table 3 would reveal a dislike for the direct method by respondents other than banking and financial institutions. The new position without the banking and financial institutions would be 35 respondents preferring the direct method, against 75 preferring the indirect method and 58 preferring to be given the option of choosing between direct and indirect method.
13. The Financial Reporting Act 1993 now offers this legal mandate (Rahman et al. 1994).
14. Sample firms for the UK were drawn from the Times (1992-93) list of 1000 top firms listed on the London Stock Exchange (Times Books, 1992). A request was made for the annual report and accounts, for three years (1991 to 1994) from each of the Top 500 U.K. publicly-listed firms in the Times list. The annual report and accounts of 320 U.K. firms (with year ends on or after 23 March) out of the 430 received were reviewed for the two years immediately after the commencement date of FRS 1 (i.e. 23 March 1992). The firms in the Canadian survey were 300 publicly quoted firms and relevant data relating to their cash flow reporting styles relate to 1990 to 1992. The firms in the US survey were 600 publicly quoted firms and the relevant data from their reported results relate to 1990 to 1993.
15. However, FRED 10 proposes to separate 'dividend paid' from 'dividend received and interest.' It suggests that 'dividend paid' should be positioned after 'acquisitions and disposals' to reflect their more discretionary nature.
16. SFAS 102 reduces flexibility relative to SFAS 95. Under SFAS 95, purchases and sales of trading securities could be classified as operating activities or investing activities.

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Anglo-Saxon and German Life-Cycle Costing

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Key Words: Contribution costing, German cost accounting, Life-cycle costing, Multiple-stage fixed cost accounting

Abstract: *This paper discusses the complementarity of the Anglo-Saxon and German approaches to life-cycle costing. It is argued that the relationship between the two life-cycle costing approaches can be found in the direct costing format of the income statement. Given the fact that life-cycle costing itself is very little known in German cost accounting, the German method of multiple step fixed cost accounting is considered the closest equivalent to life-cycle costing. The combination of the two approaches can be further strenghtened by integrating the multiperiod decision-oriented cost accounting developed by Paul Riebel.*

INTRODUCTION

Recent business developments assign a growing role to the marketing function (Schiff and Schiff, 1994) In contrast, management accounting has been slow in providing support for marketing decision making (Foster and Gupta, 1994).

This paper tries to contribute to closing this gap by discussing the relationship between marketing and profitability. The discussion uses the management accounting concepts of contribution margin analysis, cost hierarchies and life-cycle costing while from the marketing area the concept of the product life-cycle is being used.

As can be observed, all concepts have an Anglo-Saxon background. The German element in the discussion is in the management accounting concept of *Stufen Fixkostendeckungsrechnung*—a combination of cost hierarchy and contribution margin analysis which we translate as multiple-stage fixed cost accounting.

General background of this paper is the opinion of the authors that German cost accounting can significantly contribute to management decision making. Both because of its strong theoretical backup and wide application in (German) business practice, and

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because Anglo-Saxon management approaches can have limited cultural and/or business fit in some contexts (Amat, Carmona and Roberts, 1994; Roberts, 1994).

The line of argument is as follows: Given the relevance of marketing cost behavior, the product life-cycle needs to be reconsidered as a management reporting format. In management accounting, the product life-cycle traditionally coincides with the concept of life-cycle costing. However, the traditional concept of life-cycle costing is considered to be too broad. Launch decisions and life-cycle phase budgeting are supported, but marketing decisions with a medium-term time horizon are overlooked. Moreover, life cycle costing visualizes cost incurrence and locked-in costs across functional areas and periods, but neglects to relate cost behavior to a marketing decision framework, such as the marketing mix or market share/product portfolio matrix. In other words, the accounting orientation is maintained in a technically improved way, but a marketing orientation continues to be neglected.

To accomplish a stronger focus on marketing decision making, the product life-cycle is divided and considered in its subsequent phases. Each phase is assumed to be supported by a contribution margin income statement. Contribution margins are designed hierarchically to visualize and report the focus elements in the marketing decision making, e.g., distribution channels, customer groups or product lines.

Furthermore, considering that each life-cycle phase implies a different marketing strategy and, thus, a different set of marketing decisions, the contribution margin income statement per phase is also considered to be different. For example, in the growth phase, the key role of the distribution channel can be accentuated, while in the maturity phase, the product line contribution can be of major importance.

This paper then concludes by indicating several ways to represent marketing decision, in periodic contribution margin income statements. It is suggested to complement the contribution margin income statement of Anglo-Saxon origin with the German multiple step fixed cost accounting reporting format. The latter includes a relatively stronger orientation toward management decision making as a overall determinant in the reporting format.

The paper is composed as follows. After an introduction of the product life cycle, the management accounting technique of life-cycle costing is discussed. The relationship between the product life cycle and cost object hierarchies is discussed next. Consequently, the design of an analytical contribution margin income statement is introduced and discussed from an Anglo-Saxon point of view. In conclusion, the German accounting method of *Stufen Fixkostendeckungs rechnung* is explained, contrasting it with similar Anglo-Saxon methods. Some extensions of this German method are subsequently offered, based on earlier German cost accounting advancements.

Traditional applications of the life-cycle hypothesis

Basically, the product life-cycle-concept examines how the demand of a product evolves over time, primarily using it to forecast sales (revenues) and, consequently, to formulate marketing strategies (Hahn, 1992).

Typically, the classic product life-cycle curve is divided into 4 or 5 stages (see Table 1). The addition of a preproduction stage introduces the pre-launch design and test phase. This stage focuses on the planning decision itself, supporting cost-benefit analysis, invest-

Table 1. Four and Five Stage Models of the Product Life Cycle

4-Stage Model	*5-Stage Model*
1. Startup	1. Preproduction
2. Growth	2. Startup
3. Maturity	3. Growth
4. Harvest	4. Maturity
	5. Decline

ment appraisal, and long-term budgeting. For reasons of simplicity, we will use a 4-stage model in our paper.

Originally, the life-cycle hypothesis was related to products (Levitt, 1965). In the course of time, the concept has been extended to include markets and industries with the more recent applications focussing on product-market combinations (Simon, 1992; Lambin, 1993).

The typical S-curve shape of the life-cycle curve is based on a generally assumed tendency, but considerable deviations in the specific shapes of the curve can occur (Rink and Swan, 1979; Day, 1981). We will adopt the generic form of the life-cycle curve for our further discussion.

Obviously, a generalized concept as the life-cycle S-curve did not escape criticism (Dhalla and Yuspeh, 1976; Lambkin and Day, 1989; Crawford, 1992). One of these criticisms relates to the predetermined sequence in which phases are situated. The basic implication is that a product life-cycle is a dependent variable, i.e., the product life-cycle is not a positive empiric fact of life but an outcome of a 'makeable' and controllable decision-making process. Therefore, product life-cycles can become tautological and turn into selffulfilling prophecies. For example, sales increase percentages are used to define the phases in the life-cycle which, in turn, is used to forecast sales growth. As a result, if management expects to enter the maturity phase and decreases marketing expenses, it will indeed experience a slow-down or stand still in sales growth.

Basically, the product life cycle concept is a conceptual framework to organize further analysis. In the case of our paper, to organize the analysis of the various factors that determine the profitability of a product-market combination over time.

Life-Cycle Phases and Cost Categories

From a marketing point of view, the individual product life-cycle phases imply assumptions of the environment and the firm itself. For example, varying per phase, the environment is hypothesized to consist of a technology factor, a buying behavior factor and a demand elasticity relative to the various marketing mix elements. Similarly, the firm is assumed to experience different cost structures and different cash-flows per life-cycle phase. It should, again, be noted that these are hypotheses and not empirically validated in all cases (Lambin, 1993).

We can classify the characteristics of each phase as mentioned in Table 2. In relation to Table 2, business risk is considered a proxy for the importance management attaches to adequate cost information. The higher the risk of business failure (uncertainty on the success of the product as measured by absolute sales revenue level), the higher the importance attached to cost information monitoring the product-market position. Stated

Table 2. Characteristics of the Product Life-Cycle Stages

	Stage in Life-cycle			
Characteristics	Introduction	Growth	Maturity	Decline
Marketing objective	attract buyers	expand distributions and product line	maintain differences	cut back, revive or terminate
Industry sales	increasing	rapidly increasing	stable	decreasing
Industry profits	negative	increasing	decreasing	decreasing
Competition	none or small	some	substantial	limited
Customers	innovators	selective buyers	mass market	laggards
Product	a few basic models	expanding line	full product line	best-sellers only
Distribution	depends on product	increasing no. of outlets	largest no. of outlets	decreasing no. of outlets
Promotion	informative	persuasive	competitive	informative
Pricing	depends on product	wider price range	full line of prices	selected prices
Business risk	very high	high	medium	low
Cash-flow	negative	moderate	high	moderate

differently, each life cycle phase requires a different type of cost monitoring related to the different risk of failure in each phase.

Monitoring costs can be performed in various types of formats, each one dependent on how management prefers to look at its businesses and, thus, how management wants its cost structure translated into ‘manageable chunks’[1].

Conventionally, cost monitoring formats can be categorized in one of the following designs:

- functional (cost category) breakdown;
- responsibility center breakdown;
- fixed and variable cost breakdown;
- value chain breakdown; and
- cost object hierarchy breakdown.

Functional cost categories or bookkeeping categories focus on the individual accounting line items, such Direct Materials, Marketing Costs, or R&D Costs, i.e., costs grouped together because they are functionally homogeneous. From a monitoring and control perspective, the additional classification is added that these functional costs are either direct or indirect. Direct costs mostly implies a controllability principle.

Responsibility accounting takes the responsibility areas as a design guideline. Usually, that is the organization chart with responsibility centers and segment reporting as common examples. Responsibility accounting clearly recognizes the controllability principle, stating when management is to be held accountable for the performance of its responsibility area.

Fixed and variable cost monitoring formats focus on cost behavior patterns relative to a previously distinguished cost driver, usually volume. From a control perspective, what is fixed or variable depends on the time horizon considered. The usual assumption here is that variable costs can be controlled better because costs behavior feeds back faster, i.e.,

the results of management decisions are experienced within a short time horizon. A common example here is the contribution margin income statement.

The value chain cost monitoring format employs a workflow design. It relates upstream and downstream business areas to the dominant production and operations areas in the chain, which are historically dominant in accounting. This can be considered an extension of the cost behavior assumption underlying the fixed and variable cost breakdown. The extension consider that variations in the cost driver causes cost variations to occur in multiple areas and not in one single area only. Conventional monotoring and reporting does not show this multifunctional variation because of separate single-area reporting. In other words, a value chain design is solving the problem that is partly created by the functional cost category and responsibility accounting design formats[2]. Additionally, the workflow perspective of the value chain encourages the use of activity-based costing as it surpasses (functional) departmental constraints and takes activities as a reporting basis. An example of the value chain design format is life-cycle costing.

Finally, a cost object hierarchy in cost monitoring is an even further extension of the cost behaviour assumption. Apart from establishing multifunctional cost variation in relation to cost driver variation, it distinguishes levels or hierarchies in the cost drivers. That is, it refines the cause-and-effect relationship between activities and costs itself. Basically, a cost object hierarchy postulates that variation of activities in the value chain cause cost variation at different levels, the variation relationship being mediated by a hierarchy. In other words, variation is proportional at different levels and a hierarchy is created to position those levels. The conventional example here is the activity-based cost hierarchy of unit-level, batch-level, product-line sustaining level and facility-sustaining level (Cooper, 1990). Paralleling this hierarchy to an expanding control (time and span) horizon, Cooper subsequently relates the activity-based cost hierarchy to responsibility areas, with plant management being able to influence facility-sustaining costs.

Cost Categories and Cost Object Hierarchies

Cooper's hierarchy is developed within the context of product costing and hence assumes a product to be the primary cost object. However, the effect of activity variation can also be related to other cost objects as indicated by Kaplan (1990). Following the proposed cost driver hierarchy, he indicates the product line as (just) another cost object. Consequently, the implicit assumption is that a somewhat similar hierarchy of cost objects exists parallel to the cost driver hierarchy. This hierarchy formulates itself from the cost driver analysis, thus, following a what-is approach.

Vice versa, what happens if a hierarchy of cost objects is imposed, for example for strategic reasons, and cost drivers have to follow suit? Then the cause-and-effect relationships depicted by cost drivers is deliberately disturbed (redesigned) and both cause (activity) and effects (costs) change, see Figure 1. In the literature, this usually is classified as the behavourial use of cost drivers (Hiromoto, 1988)

In the remainder of this paper, we will focus on the design formats of the value chain and the cost object hierarchy. These two design formats for cost monitoring have relationships with existing management accounting techniques, both of Anglo-Saxon and German

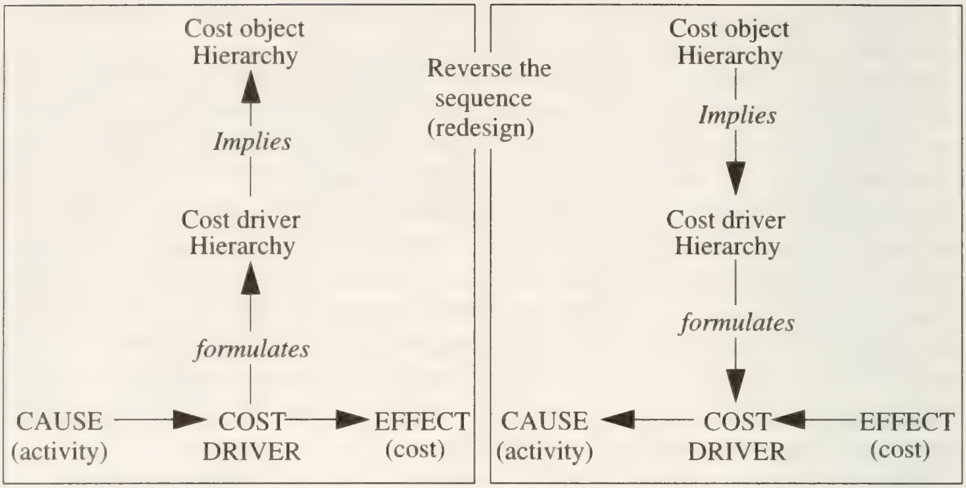


Figure 1. Using Cost Object and Cost Driver Hierarchies for Managerial Intervention[3]

origin, that can contribute to improving marketing (cost) management in the different stages within the product life cycle.

The value chain perspective has as its major accounting proponent the life-cycle costing technique (Shank and Govindarajan, 1993). Life-cycle costing focusses on the long-term profitability of a product or service[4]. It is a planning instrument as it quantifies revenues and costs for each business function across its life-cycle, creating a product life-cycle budget. As major advantages of life-cycle costing are stated (Horngren, Foster and Datar, 1994).

- to provide cost visibility at individual product level in upstream and downstream areas. Traditionally, the latter areas are poorly serviced by the management accounting discipline while, at the same time, upstream and downstream cost information is provided in a highly aggregated fashion due to financial accounting conventions.
- cost incurrence and locked-in cost differences among products are indicated, thus providing a basis for closer managerial monitoring of (cost and revenue) predictions, i.e., business risks are signalled at an early stage.
- cost category interrelationships are indicated. Due to the earlier mentioned financial accounting conventions, upstream and downstream cost information is reported in periodic and aggregated chunks that hide causalities in different business functions over time and across cost categories. For example, low R&D cost can result in high manufacturing engineering costs one (accounting) year later, and even higher after-sales and warranty costs once the product has been marketed, two or three (accounting) years later.

Earlier research on life-cycle costing indicated the financial accounting relationships per phase, i.e., what happens to the balance sheet, income statement and cash flow statement. The relationship with the traditional accounting objectives of planning, control and moti-

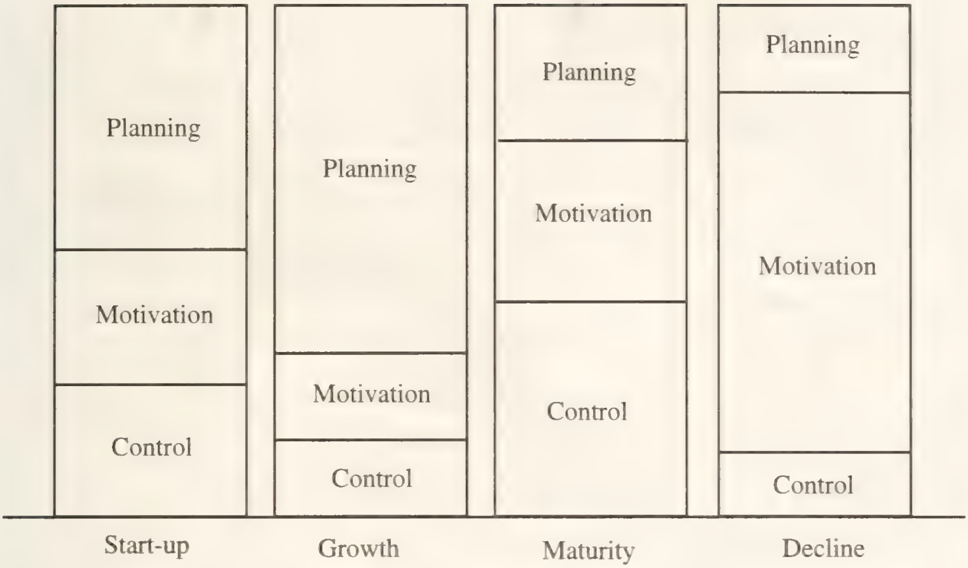


Figure 2. Change in Importance of Planning, Control and Motivation (Czyzewski and Hull, 1991)

vation (see Figure 2) showed that the planning and motivation objectives were the dominant ones in all stages of the life-cycle (Czyzewski and Hull, 1991).

The changing importance of each accounting objective suggests a similar change in importance of cost objects and, hence, cost drivers. Continuing, therefore, with the same set of cost objects and cost drivers throughout all phases seems inappropriate. Vice versa, a change in the related set of cost objects and cost drivers as the life cycle phase changes, is a plausible consequence.

In sum, life-cycle costing is a highly flexible management instrument, as it allows both long-term planning and budgeting, and short-term monitoring of costs per life-cycle phase. Costs per life-cycle phase are guided by the cost object set, used in the long-term plan.

However, one of the uses of life-cycle costing is to determine the point where total full costs have been recovered and profitability starts to occur. This reversal point can be considered over the entire life-cycle (long-term) or within each phase (short-term). Obviously, from a short-term perspective, profitability will not be reached in the first life-cycle phases. Therefore, it would be more appropriate to speak about the size of the 'under- or overrecovery' of costs incurred. In terms of accounting instruments, this would imply the use of planned (negative or positive) contribution margins. See Figure 3 for a schematic representation of the relationship contribution margin-product life cycle.

Furthermore, for a business management based on profitability and return on investment, it is necessary to use a Financial Accounting framework. That means that a periodic accounting information framework must be introduced somehow. The question then becomes how to rephrase the long-term, across-periods life-cycle cost information into a periodic format. Again, the answer to this question, is related to the use of contribution margins as systems design bridge.

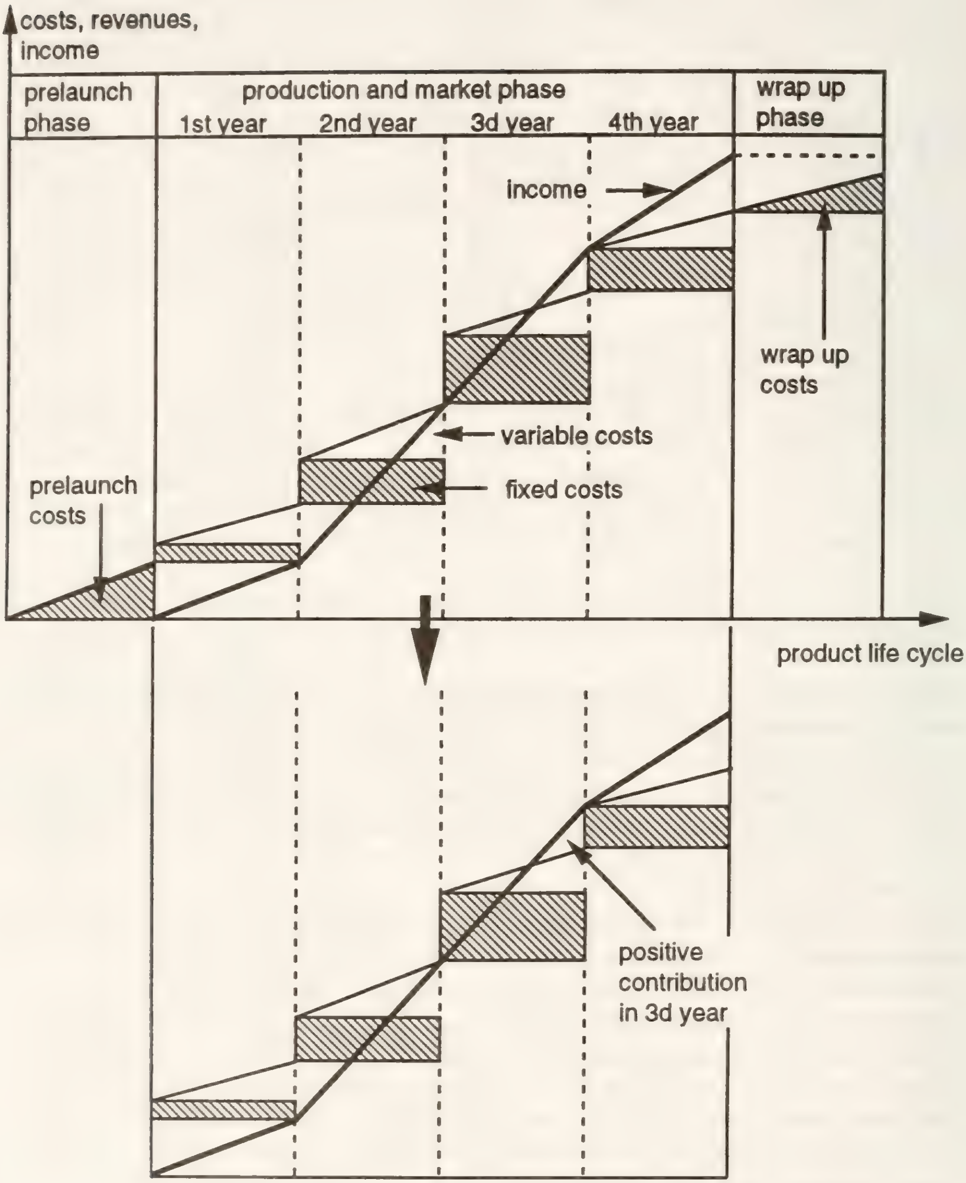


Figure 3. Life-Cycle Cost, Revenues and Contribution Margins (Männel, 1994)

Cost Categories, Cost Object Hierarchies, and Contribution Margins

Contribution margins (*Deckungsbeiträge*) have an explicit focus on cost recovery—from revenues, the variable costs have to be covered first and then the fixed costs (periodic

costs). Income is the final remainder after both variable and fixed cost have been covered. In other words, there exists a sequence in cost coverage, with the sequence providing (margin) information.

Basically, the use of contribution margin information implies the use of Direct Costing (DC). While life-cycle costing can be considered an extreme form of Absorption Costing (the entire value chain is involved in calculating full product cost), no incompatibility regarding the use of DC exists. The main difference between both costing systems is in the area of Financial Accounting, i.e., the income effects of different inventory valuations by carrying forward the fixed manufacturing cost amount.

A basic DC-based income statement generates only one contribution margin per period. This type of income statement employs the functional cost categories generated from the bookkeeping system.

Alternative uses of the contribution margin income statement are based on the idea of analyzing the overall contribution margin according to its sources. That is, the cause-and-effect relationship between contributing activity (cause) and margin (effect) is accentuated. Visualizing the source of the contribution in financial terms is another way of introducing a hierarchy within the cost structure, hence, the earlier Figure 1 can be considered to apply again.

It is in this area of contribution margin differentiation that Anglo-Saxon and German approaches begin to vary. We will discuss the Anglo-Saxon approach first, followed by the German one.

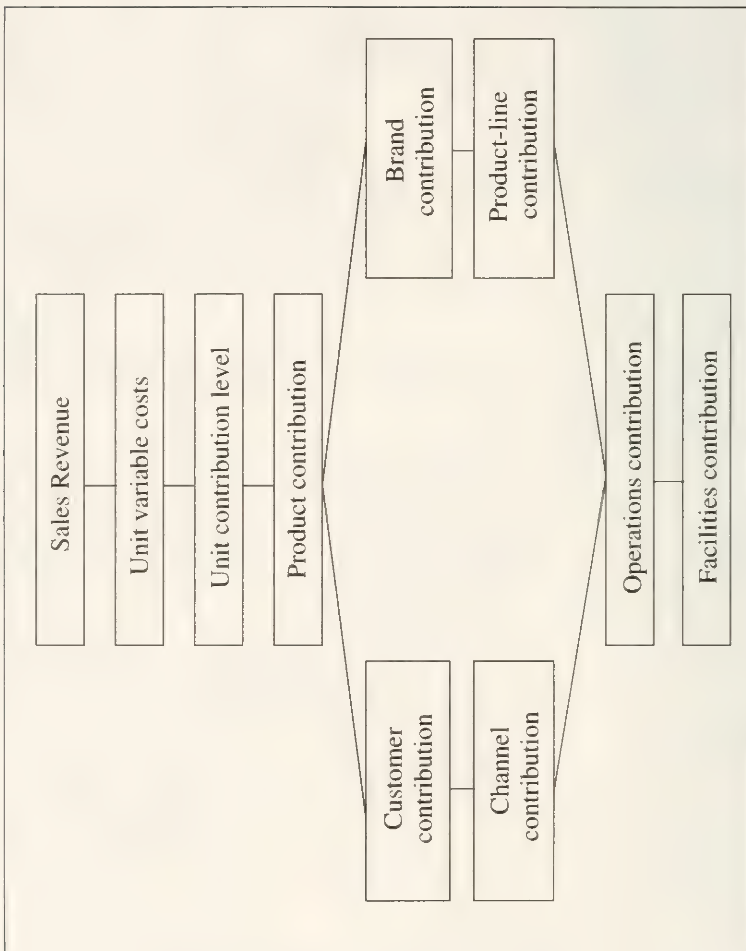
The Anglo-Saxon contribution margin differentiation is build upon the activity-based cost object hierarchy developed by Cooper, and expanded by Kaplan (Cooper, 1990; Kaplan, 1990). This activity-based hierarchy is parallel to the cost driver groupings at different levels of managerial influence and responsibility. It distinguishes activities into unit-related, batch-related, product-sustaining, product-line sustaining, and facility-sustaining activities.

The activity-based hierarchy is used by Ali (1994) to construct a similar type of hierarchy which we consider specifically relevant for the earlier mentioned context of (strategic) marketing decision making and, therefore, will use as the major relevant Anglo-Saxon contribution.

Ali groups unit, batch, and product-sustaining activities into 'product contribution', while introducing a 'brand contribution', a 'customer contribution' and a 'channel contribution' as further specifications of product-line sustaining activities. Moreover, he also introduces 'operations' as another intermediate level before ending up with the facility-sustaining cost level, see Figure 4.

Also, Ali suggests to assign overcapacity costs to the appropriate level, e.g., machine overcapacity should be absorbed by the product line being produced on that machine, and plant overcapacity (floor space etc.) is absorbed at facilities level.

Using a contribution breakdown based on a cost driver annex cost object hierarchy is not new, given the comments made by (Boer, 1990) quoting a 1967 paper by Marple. Boer shows that contribution margins are traced to a cost hierarchy that, in turn, is based on a particular concept of the organization, called the product segment view and the market segment view (see Figure 5). This concept of the organization has a clear strategic content; it represents the way management views the organization and opera-


Sales Revenue
Unit variable costs
Unit contribution level
Product contribution
Brand contribution
Product-line contribution
Customer contribution
Channel contribution
Operations contribution
Facilities contribution

	Product Line I			Product Line II			Total
	Product A	Product B	Total	Product C	Product D	Total	
PRODUCT REVENUE	650.000	400.000	1.050.000	850.000	600.000	1.450.000	2.500.000
variable unit-based cost	200.000	135.000	335.000	200.000	265.000	465.000	800.000
UNIT CONTRIBUTION LEVEL	**450.000**	**265.000**	**715.000**	**650.000**	**335.000**	**985.000**	**1.700.000**
unit/batch/product-based costs	160.000	62.000	222.000	140.000	80.000	220.000	442.000
overcapacity costs-product	20.000	3.000	23.000	10.000	20.000	30.000	53.000
PRODUCT CONTRIBUTION	**270.000**	**200.000**	**470.000**	**500.000**	**235.000**	**735.000**	**1.205.000**
brand-sustaining costs			55.000			175.000	230.000
BRAND CONTRIBUTION			**415.000**			**560.000**	**975.000**
product-line sustaining costs over-			25.000			130.000	155.000
capacity costs-product line			5.000			10.000	15.000
PRODUCT-LINE CONTRIBUTION			**385.000**			**420.000**	**805.000**
customer & channel-sustaining costs							370.000
OPERATION CONTRIBUTION							**435.000**
production, marketing, and admin-							200.000
istrative facilities-sustaining costs							55.000
overcapacity costs-facilities							
FACILITIES CONTRIBUTION							**180.000**

Figure 4. Multi-contribution margin Income Statement

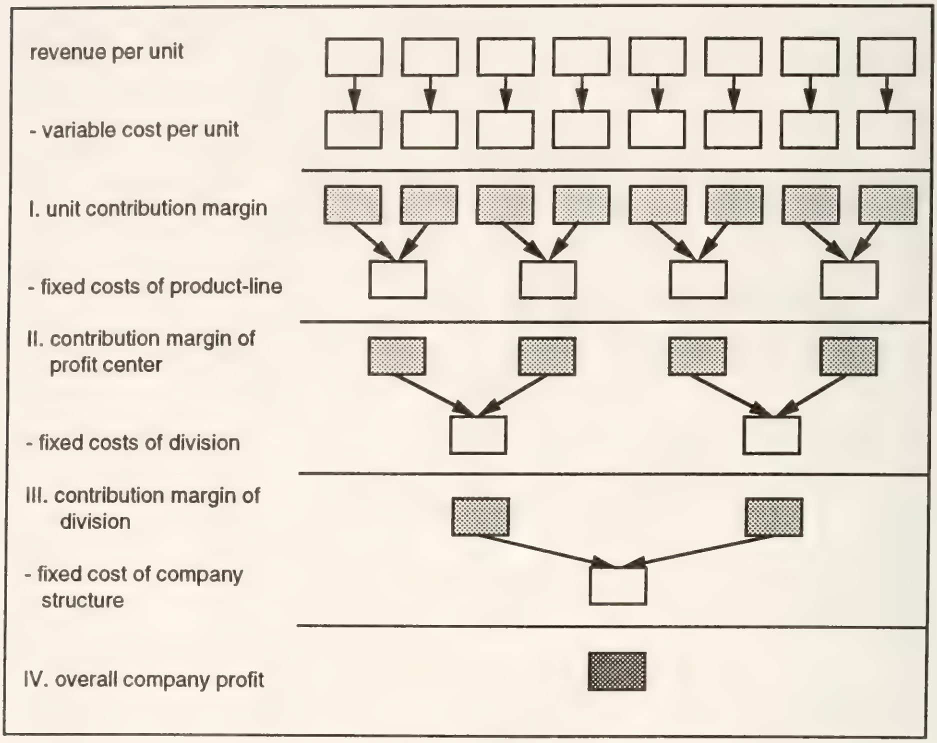


Figure 5. The mechanism of multiple-stage fixed cost accounting in Germany

Relation of Costs to Product Segments

Types of segments	*Direct (traceable) costs*	*Indirect Costs*
Unit of product	Variable with units	All other costs
Product in line	Above, plus fixed to product	All other costs
Product line	Above, plus fixed to line	All other costs
Plant	Above, plus fixed to plant	All other costs
Division	Above, plus fixed to division	All other costs
Company	All costs	None

Relation of Costs to Market Segments

Types of segments	*Direct (traceable) costs*	*Indirect Costs*
Sale transaction	Variable product & selling costs	All other costs
Customer	Above, plus fixed to customer	All other costs
Salesman	Above, plus fixed to salesman	All other costs
Sales territory	Above, plus fixed to territory	All other costs
Sales district	Above, plus fixed to district	All other costs
Company	All costs	None

Figure 6. Cost hierarchies and traced contribution costs

tionalizes that view in terms of cost objects derived from strategic objectives, i.e., the argument as depicted in Figure 1 applies.

The product segment and market segment views are illustrated in Figure 6. As can be observed, it uses stepped down contributions similar to the ones illustrated in Figure 4.

The method of a reducing contribution margins according to a pre-established hierarchy is familiar from segment reporting. The hierarchy used in the latter type of application is one of responsibility areas, with detailed reports at business unit level and more aggregated ones at divisional and company levels. Key element is the variance-analysis of unit income and bottom-line returns per responsibility area.

In summary, contribution-margin reporting is based on a cost hierarchy, with the Anglo-Saxon application leaning heavily either on the Activity-Based Costing hierarchy or on a responsibility accounting hierarchy. The overall objective, however, is to provide analytical profitability information for a short-term time period. Such a time period can be a single life-cycle phase, with the cost hierarchy relating to the strategic marketing objectives for that phase.

The Concept of the Multiple-Stage Fixed Cost Accounting

In contrast with life-cycle costing, which is little known and applied in Germany (Männel, 1994), contribution margin reporting is more well-developed than in the Anglo-Saxon world.

Similarly, cost hierarchies are applied in many areas of German cost accounting, ranging from accounting instruments, such as cost allocation, to accounting theory (Boons, Roberts and Roozen, 1992; Riebel, 1994b).

In German contribution costing (*Deckungsbeitragsrechnung*), systems are usually broken down according to the product, sales order, customers or marketing structure. Fixed costs are then allocated at the appropriate levels. Periodic income statements can be structured as multiple-stage fixed cost accounting systems (*Stufen Fixkostendeckungsrechnung*) with unit product as frame of reference (Aghte, 1959). This structure provides a large flexibility in use. For example, results can either be determined separately for products, product lines, divisions, customers and distribution/marketing areas, and be accumulated hierarchically (Männel, 1983; Coenenberg, 1992; Weber, 1996).

The mechanism of multiple-stage fixed cost accounting is described by Männel (1994) as follows, see also Figure 5 for a schematic representation of the basic procedure:

- Start from net product revenue and substract the variable cost per product. Costs taken into consideration at this stage are the ones exlusively charged to a product, i.e., the unit-level in the Anglo-Saxon activity-based cost hierarchy.
- The resulting unit contribution margin is multiplied by the amount of units sold to obtain the total contribution margin. From there onwards fixed costs will start to be allocated.
- Fixed cost allocation is at the stages of the product line, the profit center, division and the company. If fixed costs cannot be allocated at the top level of the hierarchy (product-line) they move downward at the next stage until they can indeed be allocated.
- Fixed costs originating from centralized (staff) cost centers can only be allocated at the company stage.

- The intermediate results of this multiple-stage fixed cost allocation are the profitability contributions of each product, product line, profit center, division and so on. Finally, the contribution of company level activities to the profit of the period is indicated.
- In terms of practical application, (the structure of) multiple-stage fixed cost accounting is very popular, because the intermediate results at the specific contribution margin stages are also relevant indicators for the performance of these units.

Multiple fixed cost accounting is a very popular framework for statements of operating results in German cost accounting practice, mostly because of its usefulness as a basis for (the design of) a management information system. The advantage of this framework is the flexibility to control fixed costs at different levels and to link this hierarchy to various managerial areas, an advantage which was already mentioned by Aghte (1959).

Moreover, this principle of evaluation can be easily extended and adopted for many purposes which has added to its popularity (Männel, 1993). For example, a relationship can be established with managerial motivation and behavior, creating an incentive system based on the contribution margin and assigning managerial responsibilities accordingly (Riebel, 1994a).

In other words, it combines the Anglo-Saxon segment reporting in responsibility accounting, with profitability analysis as suggested by Ali (1994).

The Integration of Multiple-Stage Fixed Cost Accounting and Life-Cycle Costing

In this paragraph, we try to integrate the product life-cycle concept with the cost object-oriented multiple-stage fixed cost accounting concept. Traditional life-cycle costing follows the costs of one product for its complete life time (Schweitzer and Küpper, 1991), while multiple-stage fixed cost accounting, being basically a contribution margin approach, takes a more short-term perspective.

Using the concept of the multiple-stage fixed cost accounting (*Stufen Fixkostendeckungsrechnung*) to link life-cycle costing and operational income statement systems, we want to point out the high practical relevance. Useful and practical inputs for an intermediate term-oriented management information system is generated.

The system is intermediate term-oriented because the life-cycle concept requires a combination of period results in the contribution margin stages of the various years. A variant of this concept would be to integrate nonallocated costs of the last periods into the specific stages of the current period.

The concept also contains the idea to integrate positive/negative contribution margins of past periods in the multiple-stage scheme and to balance these results in the next periods. Basically, the possibility exists to compensate losses of past periods with current contributions in the same area. In balancing the last periods in the current or next period, this variant also reflects the profitability break-even moment in the life-cycle (Rückle and Klein, 1994).

One possible method to get elements of the life-cycle into the framework of the multiple-stage fixed cost accounting is demonstrated in Figure 7 and explained by the following scheme:

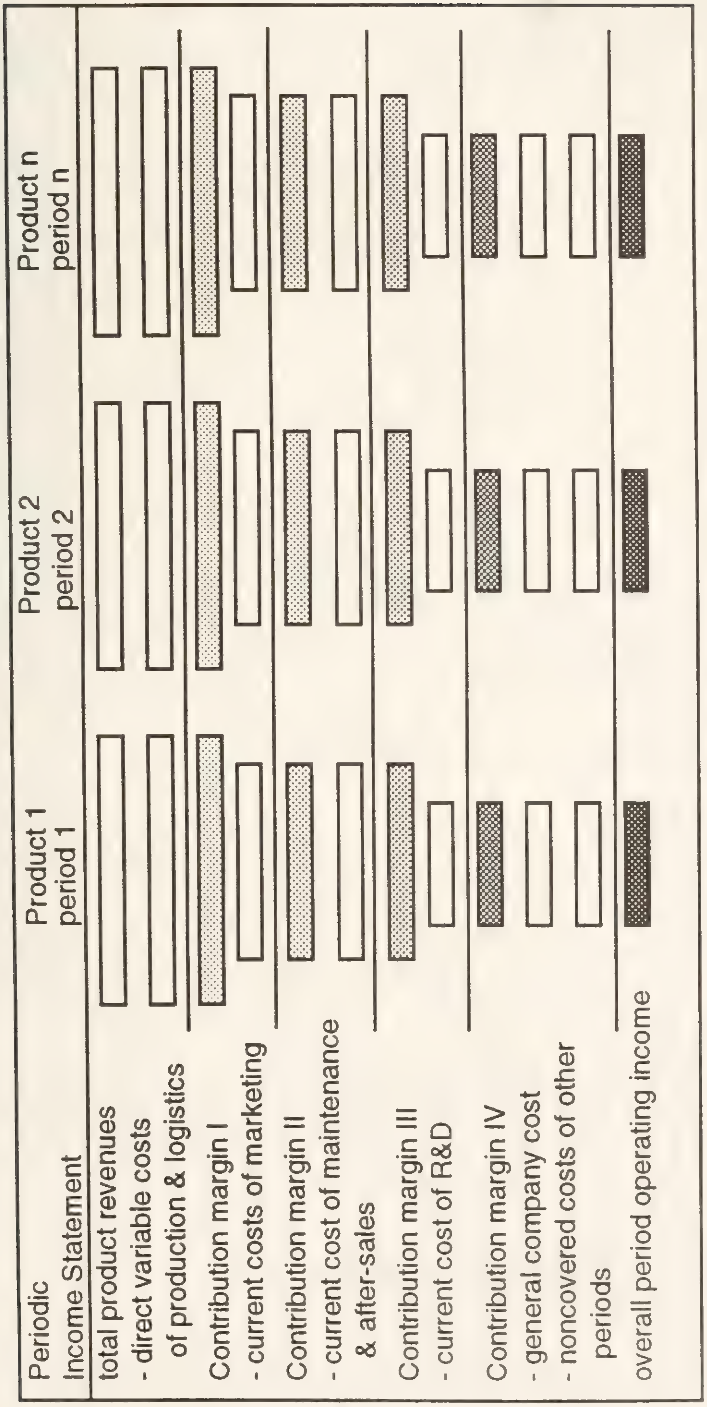


Figure 7. An integrative design of life-cycle costing and multiple-stage fixed cost accounting

1. Subtract from the total product revenues in the current period. The total direct variable costs of production and logistics of each product in the current period. This will result in the Contribution Margin I as the first base for the allocation of the remaining costs, e.g., typical life-cycle costs such as marketing, after-sales services costs, and R&D costs.
2. Subtract from contribution margin I the product line costs of market entry and routine marketing outlays such as advertising and periodical marketing services. As these costs are product line-based and not single product-based, they are carried by several products as accentuated by a larger block in the figure. This will result in Contribution Margin II, which serves as a key indicator for the contribution of each major product or product line.
3. Substract from Contribution Margin II the costs of maintenance and after-sales services. Typically, these are cost categories with a long time horizon which have to be allocated in a cumulative form for aggregated product lines. This will result in Contribution Margin III.
4. Substract from Contribution Margin III the aggregate costs of research and development as being preproduction/upstream costs. This will result in Contribution Margin IV.
5. Substract from Contribution Margin IV the costs of general administration and any other residual and noncovered costs of other periods, the latter in order to integrate the multiperiod view of this concept. The remainder will equal the overall period operating income.

A Variation on the Multiple-Stage Fixed Cost Accounting Concept

In this section, we will demonstrate one design of life-cycle cost management as an illustration of the flexibility of multiple-stage fixed cost accounting and, thus, as the base for an extended analysis of product life-cycle costs and the present income situation of the firm.

This design is based upon the idea to design (the stages of) the fixed cost accounting scheme according to the sequence of the product life-cycle stages (Shields and Young, 1991). The resulting structure is, again, that of a funnel, providing in each stage information on cost coverage per life-cycle stage and how much each stage contributes to the overall profitability, see Figure 8.

Moreover, this structure is in accordance with the idea to relate only direct costs to the product unit, and to identify fixed costs to the locations where the decisions are made. Typically, this variant is the logical basis of all possible relationships between life-cycle costing and multiple-stage fixed cost accounting.

Paul Riebel's Relative Unit-Cost Accounting (*Relative Einzelkosten-Rechnung*) and Multiperiod Allocation in Product Life-Cycle Costing

A second possible design of the multiple-stage fixed cost accounting is to develop a contribution margin hierarchy based on both a time criterion and an identification criterion. The first step in the hierarchy, see Figure 9, relates to the current period and to the total direct variable cost at the unit-level. From the remaining Contribution Margin I,

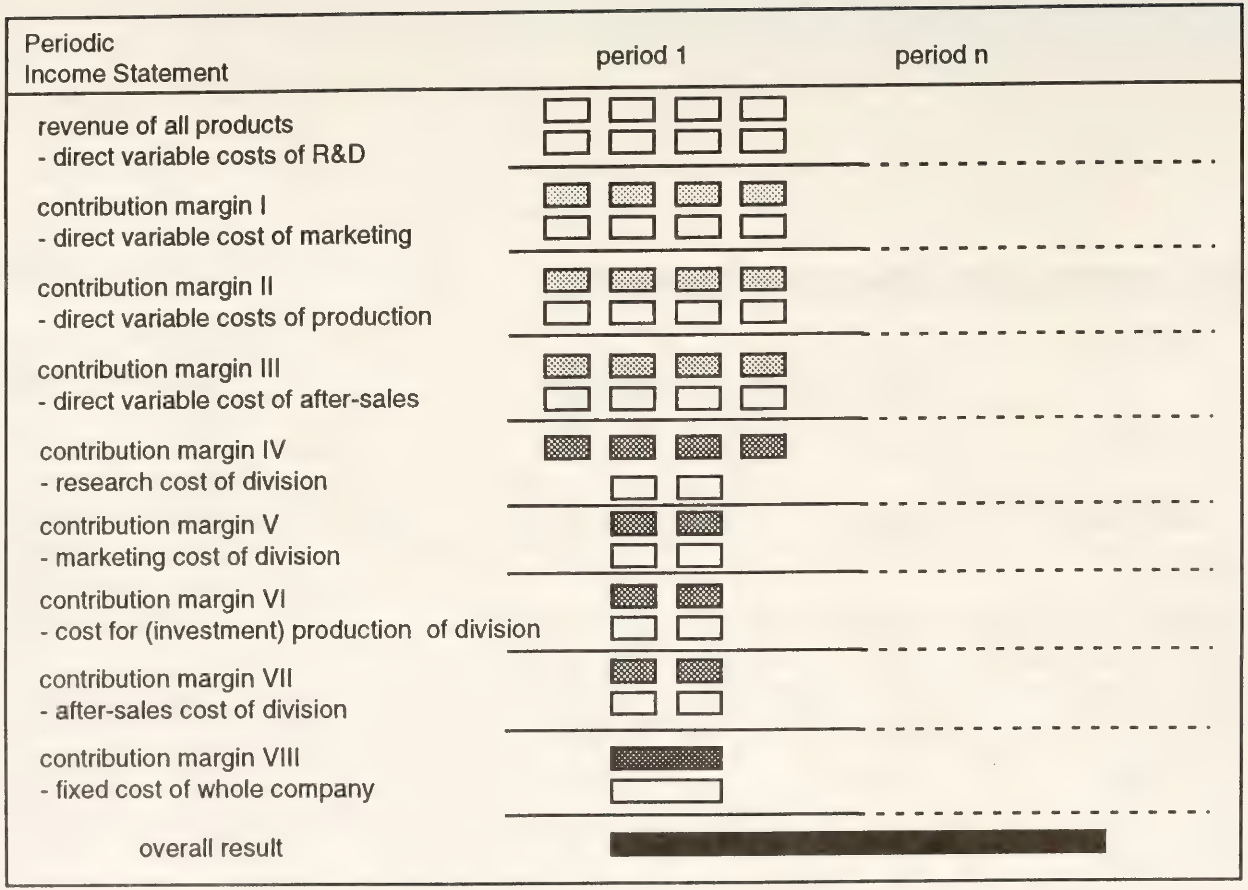


Figure 8. Design I of the multiple-stage life-cycle concept

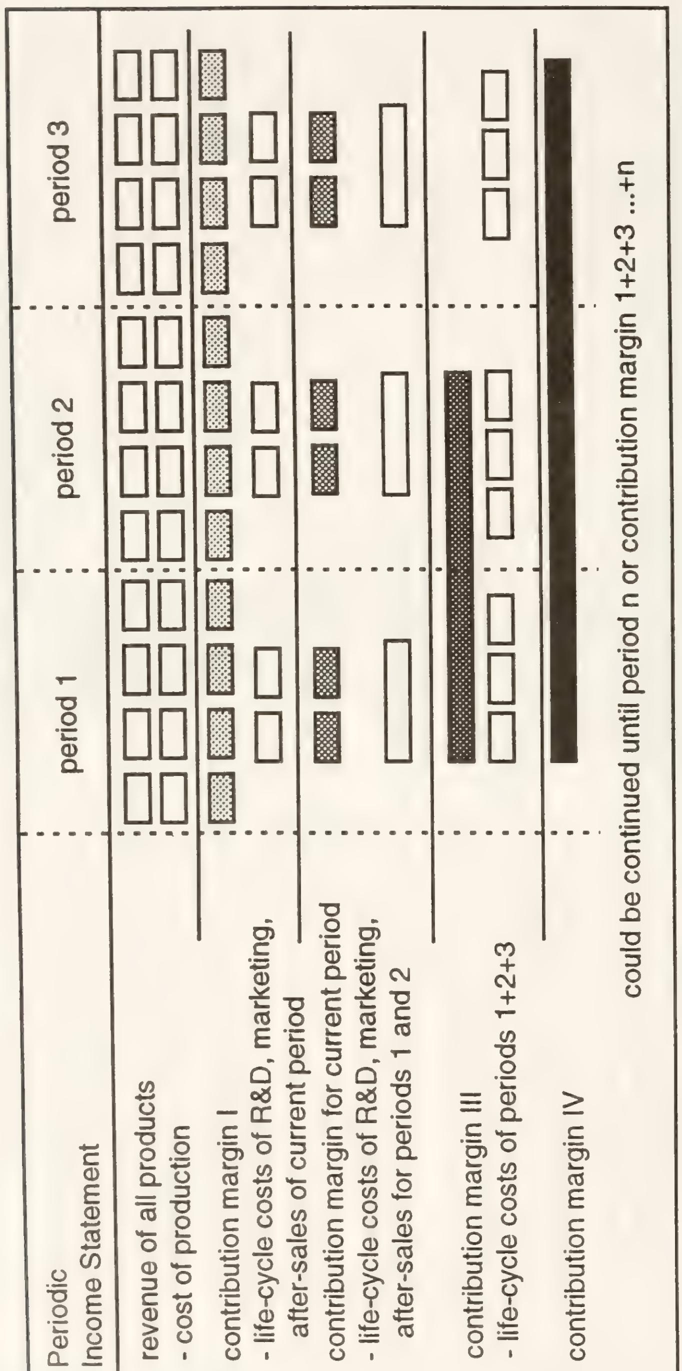


Figure 9. Design II of the multiple-stage life-cycle concept

aggregate current period upstream and downstream life-cycle costs are covered, resulting in a current period contribution margin. From that margin II, noncurrent period upstream and downstream life-cycle costs are covered. Finally, from the resulting margin III, multi-period life-cycle costs are covered.

Following the above two identification criteria of periodic and life-cycle stage, it is possible to generate a multiperiod -multiple-stage accounting system. A multiperiod contribution margin design has the additional advantage that consistency over time is introduced. This allows comparison across life-cycle phases on key variables ('horizontal analysis').

This variant is adopted from a concept developed by Paul Riebel (Riebel, 1994b; Männel, 1993). The work of Paul Riebel is a seminal contributions to German cost accounting literature since World War II. He suggests to consider costs and contribution margins in terms of object hierarchies and interrelated networks of products, activities, time periods and so on. Riebels opens a new perspective on cost accounting by starting out from a basic cost accounting data pool (*zweckneutralen Grundrechnung*) and then defining a qualified hierarchy of reference variables to determine relevant results, like contribution margins, related to relative data such as revenues or timeperiods[5].

Riebel's work is based upon some distinctive characteristics which set it aside from other mainstream accounting theorists. Most important particularities are his use of a cash-outlay oriented cost definition instead of a value oriented cost definition, his conceptualization of decisions as the true source of costs and revenues and, therefore, the idea that fixed and variable costs are not related to activity level but to a particular decision. This results in the idea that the only cost driver that exists is (a) management decision. He then extends this view by formulating the principle of decision identity which means that the decision time horizon is relevant for the corresponding costs. A direct cost then is relative to its specific identification with a decision and, consequently, to its specific position in the fixed cost hierarchy. An ultimate consequence of the decision identity principle is its variation from traditional accrual based accounting as costs and contribution margins that cannot be clearly related to a specific decision in the current period are accumulated and carried forward to next periods, i.e., the related time horizons are effectuated.

With reference to the life-cycle costing concept, Figure 9 suggests the mechanism of a multiple-stage contribution margin system focusing on the overlaps in multiperiod cost allocation. This concept provides contribution margin information on more than one single period and, if need may be, the flexibility of the system allows variable designs for all combinations of periods and product life-cycles.

CONCLUSION

A comparison of Anglo-Saxon and German cost accounting shows that linkages in the area of life-cycle costing are both possible and useful as it provides additional conceptual support for developing a life-cycle costing framework. On the one hand, the Anglo-Saxon approach is more widespread and concepts such as cost object hierarchies and cost drivers are more specifically developed. On the other hand, the German approach has a large conceptual potential when it comes to integrating and extending the life-cycle concept to other areas of cost management.

This paper has tried to demonstrate that the different approaches of life-cycle costing used in the Anglo-Saxon and German accounting disciplines can be mutually beneficial. Specifically, the possibility of relating Anglo-Saxon life-cycle costing to German multiple-stage fixed cost accounting provides a new design for life-cycle cost accounting with practical relevance in the area of marketing cost management. The interpretation of the work of Paul Riebel on unit and contribution costing for its use in a life-cycle costing framework is a first attempt to further identify this mutual benefit.

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NOTES

1. Sometimes 'manageable' is rephrased as 'relevant' as guided by the time-worn slogan 'different costs for different purposes', i.e., what is manageable, relevant etc. is guided by managerial decision making needs. For the purpose of this paper, we assume that cost monitoring serves a control need.
2. One can argue here that a profit center hardly has any functional constraint and, thus, the argument does not apply. However, when considering a profit center to be a 'mini-organization, the problem of functional constraint reappears but now at a lower organizational level, i.e., within the business unit.
3. The word intervention is deliberately used as it indicates an explicit attempt to influence organizational behavior. The latter being understood in terms of workflow and coupled activities. Also, we fully acknowledge our conception of management accounting as a managerial technology, operating on and engineering the organizational mechanism. Thus, we neglect any critical approaches to accounting adopting different organizational metaphors. We think this is appropriate as we are discussing accounting instruments and techniques—"accounting for accounting's sake".
4. Interestingly, the implementation of life-cycle costing seems to have some far-reaching organizational consequenses as well. It needs some specific organizational requirements, most of which seem to be related to workflow connectivity. Consequently, the life-cycle costing technique requires an organizational change from a mechanistic to an organic design model, providing an excellent example of accounting as a change agent.
5. Some similarity of Riebel's work with event accounting exists. Event accounting is information system driven and uses relational data bases and entity-relationship modeling. See *The Journal of Information Systems,* published by the IS/MAS section of the American Accounting Association, for work in this area.

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Capital Charging and Asset Revaluations: New Choices in Governmental Financial Reporting?

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Key Words: Capital charging, Governmental accounting, Governmental, performance evaluation

ABSTRACT: *Within the last ten years, the New Zealand government has reformed itself from a system using antiquated management and accounting methods into a system that has attracted attention from government officials around the world. The new age methods adopted within the New Zealand government are based on a more business-like method of operations, and they include managerial empowerment, accrual accounting, asset revaluations, capital charging, and output budgeting. The changes in governmental financial reporting were made to support the new management methods. This paper provides a detailed review of how capital charging and asset revaluations are used within the New Zealand public sector. Additionally, it provides an explanation of why it would be very difficult to adopt these successful methods in governments founded on a U.S. constitutional model.*

As more state and local governments (SLG) and nonprofit organizations in the United States have adopted generally accepted accounting principles, promulgated by the Government Accounting Standards Board (GASB) and the Financial Accounting Standards Board (FASB), improvements in governmental financial reporting have become apparent. At the Federal level, the formation of the Federal Accounting Standards Advisory Board (FASAB), the passage of the Chief Financial Officers Act in 1990, and the performance and Results Act in 1993 have also improve financial reporting practices. But these changes do not represent a series of uninterrupted advances made in the government's financial reporting model. For example, the GASB recognized the importance of interperiod equity in Concepts Statement No. 1, *Objectives of Financial Reporting* (GASB, 1987). The GASB's concern for interperiod equity was also set forth in Statement 11, *Measurement Focus and Basis of Accounting—Governmental Fund Operating Statements* (GASB, 1990) before it was indefinitely withdrawn. Prior to its withdrawal, Statement 11

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extended the application of accrual accounting in SLG's reporting model. At the Federal level, a Cost of Capital Task Force has recently delivered a draft copy of a discussion memorandum (DM) to the FASAB regarding the incorporation of charges for the cost of capital (Federal Accounting Standards Advisory Board, 1994). The DM favored the use of a cost of capital approach in the Federal environment, but that view has not been adopted as the Task Force's conclusions have been deferred. Additionally, the recognition of depreciation other than on an optional basis continues to be surrounded with opposing viewpoints in the governmental and nonprofit areas. The foundation for these controversies surrounds the use of accrual based accounting methods, and ultimately, the definition of accrual accounting in a governmental context. Resistance to these changes are symptomatic of conditions that make it difficult to adopt new management methods as many of the new, more efficient management methods cannot be fully utilized without changes in the information provided by the government's financial reporting system.

In other countries, such as New Zealand, governmental financial models have been revised to incorporate accrual accounting methods and support the accompanying new management styles. These changes have been viewed as integral to one another. For example, the New Zealand Government financial reporting model reflects accrual accounting, output budgeting, asset revaluations, and capital charging accompanied by new views of managing government employees that take advantage of the new financial information (Scott, Bushnell, & Sallee, 1990; McCulloch, 1992; McCulloch, 1993).

It is important to analyze the underlying reasons in the U.S. which retard the adoption of these new methods as compared to those forces in a country such as New Zealand which have supported the changes. This paper provides a detailed review and analysis of how capital charging and asset revaluations are used within the public sector of the New Zealand government. Additionally, it provides an analysis of why these public sector accounting and management methods have little chance of being successfully adopted within any government model in the United States.

THE BACKGROUND FOR ACCOUNTING CHANGES

The basis for these accounting reforms began in 1984. In 1984, the newly elected parliament initiated a series of reforms that forced New Zealand government managers to become more market oriented in their approaches to providing services.[1] Prior to this time, responsible government was equated with ensuring that spending had occurred within cash budget guidelines. Under this system, little attention was directed at the usage of public sector assets or the incurrence of liabilities. Management authority was top-down and oriented to Treasury regulations and guidelines with cash variance reporting producing little discretionary decision making by managers. Unfortunately, even with this operating rule focus, the system did not clearly define public goals nor was there a common understanding or agreement as to those goals. As result, the system of formalized procedures operated with a great deal of management disharmony.

Under the new system, outcomes are recognized to be a political choice of elected representatives but the trade offs and planning to achieve them, i.e., outputs, are the responsibilities of department managers. Outcomes are considered to be the overall effects on a community from an output or set of outputs. Outcomes are identified through parliamentary discourse,

and Ministry proposals. Once the identified outcomes are agreed upon, the outputs required to achieve these outcomes are selected. Outputs are the goods and services, i.e., the products, produced by departments, such as policy advice, services, goods production, and administration of grants. A department's outputs must be defined in terms of quality, quantity, cost, and time for completion. Once the outputs are defined, appropriations are allocated on an output level basis. As a result, managerial focus and control is no longer directed at functional expenditure lines, i.e., input costs, that comprise governmental budgetary reviews in most countries. Instead, the focus is on what is to be produced, i.e., outputs.

To support these changes with accurate information for decision making, a new financial reporting model was introduced. It was clear that if managers were going to be successful within this reformed framework they needed accrual-based financial and budget reports. Therefore, accrual accounting was adopted throughout the government together with the full recognition of depreciation on fixed assets.[2] For the first time, program expenses are reported at full cost.

From a managerial viewpoint, reforms incorporated reconsiderations of how government can most effectively be administered. Thus, the reforms "separated political decision making from technical decision making ..." (Boston, Martin, Pallot, & Walsh, 1991, 190). These reforms place operating decision making authority at the agency level, and changed the previous top-down decision making structure to one whereby strategic objectives are mutually accepted and agreed upon. As a result, there is a belief in the government manager's ability to provide outputs in the best manner as determined by that manager. This reflects a bottom-up management style and more timely decision making by local managers who are at the point where the decision must be made.

INTRODUCTION TO CAPITAL CHARGES

The Public Finance Act of 1989 continued these reforms, and it gave government departments, i.e., agencies, the right to determine the amount of capital that they use in efficiently producing the agreed upon outputs.[3] Chief executives (CE) of an agency can sell or purchase assets as long as they are not increasing the value of their agency's net assets. Net assets are allowed to increase only with ministerial approval. Thus, individual managers decide on the levels of capital, within this constraint, to use in an agency. Most agencies pay a capital charge on the assets they use to provide services. This charge increases the costs of government outputs and services to all third parties, i.e., taxpayers and other departments. The charge is an actual cash outflow which agencies pay to the appropriation-granting body, i.e., the Crown, every six months. The Crown is represented by the consolidated accounts of all the individual departments and other reporting entities, such as the Offices of parliament and State Owned Enterprises (SOE), that are considered part of the Government of New Zealand.[4]

The amount of the capital charge repayment to the Crown varies with the net worth of the assets used by a particular agency. It should be noted that the charge can amount to millions of dollars. In the Report of the Treasury, the agency which manages the Crown's finances, for the year ended June 30, 1993, the capital charge was an expense classification for $356,000. The accompanying note states:

> Since 1 July 1990 the Treasury has operated under the Capital Incentives regime. This has allowed the Treasury to invest surplus cash with the New Zealand Debt Management Office and has required the Treasury to pay a capital charge on its net assets. The capital charge rate for 1992/93 was 13% (Treasury Department, 1993).

The purpose of the capital charge is to identify explicitly the full costs of services and to provide a way for capital to be efficiently allocated and used. It is believed that if governments are to provide subsidies to third parties, the cost of those subsidies should be more accurately and explicitly calculated. The Crown as the purchaser of service outputs from departments needs to know the full cost of those services, and capital charging provides for that determination. Additionally, the imposition of this charge is part of the managerial reform processes which encourages agencies to become more self-managing, i.e., less hierarchically controlled.

Each government agency has its appropriations increased to equal the capital charge in the first year. Thus, in the first year capital charges create no net effect on the departmental cash flow. After the first year, the net cash flow effect may be negative or positive depending on managerial decisions as to the level of capital investment used to provide public services. For example, if the amount of the capital charge paid to the Crown during the year is less than the amount appropriated at the beginning or during the year, it means that the department has reduced the amount of its capital facilities during the year. If a department should pay more to the Crown than its beginning year capital charge appropriation, it means that the department has purchased additional capital facilities during the year, and the Crown has not provided an additional appropriation for those facilities. Capital charge payments to the Crown ultimately form the legal basis for new spending in the succeeding year, i.e., the available appropriation balance. In other words, any cash payments from a department to the Crown result in an increase in the cash balance available to the Crown. It is assumed that these amounts will continue to be used for budgeting capital charges in the new fiscal year. Thus, the net effect for all parties can be neutral. Obviously, there are some important questions about capital charges. The first question is how to determine the rate, and the second, how to compute a net asset base on which to apply the rate?

DETERMINING A CAPITAL CHARGING RATE

The 1994/1995 rate of capital charging used is 9.9%.[5] This rate is computed by adjusting the rate-determination equations for the private sector. The private sector cost of capital is composed of the weighted average of two components: (1) the cost of capital from equity sources; and (2) debt sources, adjusted for tax effects as follows.

$$k = ke(1\text{-}L) + kd(1\text{-}T)L$$

where *ke* is the cost of equity, *kd* the cost of debt, *T* the statutory tax rate, and *L* the financial leverage.[6] In the private sector, the cost of equity is equal to the expected dividend yield and the expected percentage increase in stock price; whereas, the cost of debt is represented by the after-tax interest rate to the firm. Each factor—equity and debt—is weighted by the proportion they contribute to the capital of the firm, and thus, the weights (1-*L*) and *L*.

For departments, there is no corporate tax. Therefore, the cost of capital must be revised for government applications. In New Zealand, the Crown is considered to be an investor

into and a purchaser of the services which departments provide.[7] Additionally, as third parties providing services to the Crown must incorporate all their costs, including the cost of capital, into the price of their services, it is believed that the Crown's departments will operate more efficiently if they face the same cost structures which exist in the private sector.

The absence of a tax on government departments means that the cost of debt is not net of a tax deduction. Also, the cost of equity must be adjusted to reflect the absence of corporate taxes. Equation (1) represents these tax adjustments for departments.

$$kg = [ke/(1\text{-}t)]\,(1\text{-}L) + kd(L) \tag{1}$$

where kg is the cost of capital to the government; ke is the cost of equity; t represents the effective rate of corporate taxation; kd is the cost of debt without a tax effect, and L represents leverage.

Hartman (1990) states that as government activities displace private investment the marginal pre-tax rate of return on private investment should be used as the discount rate.[8] For this reason, in New Zealand, the effective pre-tax rate is used to adjust the cost of equity and to maintain competitive neutrality between the government and tax-paying, private sector entities. Without the use of a pretax cost of capital, government organizations have an unfair advantage in pricing their outputs, and competing with private sector businesses. Policy reforms within the New Zealand government have created a more business-like atmosphere in managing government activities, and as can be seen, these changes have been a consideration in determining the charge rate. In New Zealand, the statutory corporate tax rate is currently 33%, but the effective rate is closer to 20%.

A further adjustment to private sector cost of capital is to express it in real rather than nominal terms by subtracting the projected rate of inflation in the consumer price index for the coming year (i) as shown in Equation (2).

$$kg = [ke/(1\text{-}t)]\,(1\text{-}L) + kd(L) - i \tag{2}$$

This adjustment changes the cost of capital from a nominal rate to a real rate. A nominal rate could have been used, but with new investments, a nominal rate could result in a net cash outflow from the government agency to the Crown matched by a holding gain in the form of an increase in the value of the newly acquired assets. Thus, a cash deficit problem could arise and discourage new productive government investments.

Furthermore, it must be remembered that the capital charging procedures are based on general policy reforms which include the design of new incentive and self-governance structures within the New Zealand government. In adopting these planning reforms and a more business-like cost structure, attempts were made to eliminate many short-run planning incentives. For example, the use of a real rate eliminated the need for government managers to be overly focused on using short-term planning measures to reduce annual deficits arising from holding gains. Furthermore, the use of a nominal rate demands that holding gains be included in income thus making department performance very variable on a year-by-year basis. Thus, nominal rates attribute managerial performance to factors not controllable by a specific government manager. In order to eliminate these variables from performance evaluations, a real cost of capital is used. Currently, inflation is recognized at 1.3% in New Zealand.

The cost of equity (ke) which appeared in Equation (2) is estimated using the capital asset pricing model (CAPM). In making that determination, three separate parameters must be

estimated: (1) *Rf*, the riskless rate of interest; (2) *Em-Rf*, the market risk premium; and (3) B, the beta of the equity, which measures the risk of a particular private sector firm's equity. These parameters are used in Equation (3) to determine the cost of equity (*ke*).

$$ke = Rf + (Em\text{-}Rf)B \tag{3}$$

Although the cost of capital is based on a one-year time frame, and thus the riskless rate (*Rf*) would be equal to the rate on one-year government bonds, this rate was considered too volatile. Therefore, the riskless rate is based on five-year government bonds to reduce the year-to-year volatility. The second parameter estimated is the market risk premium. Various studies (Dimson & Marsh, 1982; Ball & Bowers, 1986; Ibbotson & Sinquefeld, 1988; Chay, Marsden, & Stubbs, 1993) suggest a range for this premium of between four and nine percent.

The third parameter is beta (*B*). Beta is a measure of systematic risk, which cannot be eliminated by holding a well diversified portfolio, and is defined as the covariance of returns on an investment with the market portfolio of risky assets, divided by the variance of returns on the market portfolio. For listed equity securities, estimates of beta can be made by statistical analysis of the return on the security and the return on a stock market index (as a surrogate for the market portfolio). Typically, the estimated beta values of such securities are found to be in the range of 0.4 to 1.8.

In setting the standard rate for government departments, (which applied to all departments which did not negotiate a rate with the Treasury) the feasible range for beta was judged to be between an average private sector value of 1 and a low beta of 0.5. For the cost of debt, a premium over the risk free rate of between .5% and 1.5% is considered appropriate. The leverage value used is that associated with the beta, and since private sector firms averaged leverage of 50%, this value is used. Finally, for the effective corporate tax rate a range of 15% to 25% was used.

The following table summarizes the parameter values and ranges used for the standard rate for the 1994/1995 fiscal year.

Using these estimates, the real rate of capital charge was determined as lying in the range of 7.0% to 12.8%.[9] The mid-point of this range was then selected—9.9%—as the rate for the 1994/1995 fiscal year. The rate and the payments made by departments to the Crown has decreased in each of the previous two years due to a reduction in the risk free rate.[10] Accordingly, departmental appropriations have been reduced as the rate has decreased. Without this reduction in funding, each department would have received a

Table 1. Data Used to Calculate the Standard Rate for the Pre-tax Weighted Average, Real Cost of Capital

		Range	
Parameter		*Low*	*High*
Beta	=	0.5	1.0
Rf	=	6.3	6.3
Em-Rf	=	4.0	9.0
kd	=	6.8	7.8
t	=	0.15	0.25
i	=	1.3	1.3
L	=	0.5	0.5

windfall excess of funding for the charge, over the charge period, that is unrelated to managerial performance. Thus, both departmental appropriations and Crown payments are reduced in 1994/1995. This reduction is estimated to be $84,000,000 in the current year. It should be remembered that the capital charge is a managerial tool used to better control asset use and estimate the cost of services. As such, it is eliminated from the consolidated Crown reports for the Government of New Zealand although it does appear as an expense in the financial reports for a department. Once the rate for the new fiscal year has been estimated, it is applied against each department's beginning equity.[11]

VALUATION OF THE GOVERNMENT'S CAPITAL BASE

The capital charge has been instituted to assist government managers to better manage the Crown's assets. The advantage to a department occurs if it reduces its nonfunctioning or inefficient assets during the fiscal year. When that occurs, the repayments to the Crown for the capital charge are reduced, and the department can spend an equal amount. The charge is calculated at the beginning of each budget year by applying the imputed rate against the beginning balance in the Taxpayers' Funds (TF), i.e., the net asset base.

The TF appears as a residual calculated as the difference between the department's total assets and liabilities in the audited Statement of Financial position. Although the taxpayers' funds are a residual, this residual is not comparable to the fund balance for a government entity or the stockholders' equity balance as recognized in U.S. accounting models. The difference arises due to the way fixed assets are valued in the New Zealand accounting model.

Under Statement of Standard Accounting practice No. 28, (SSAP 28) the fixed assets of private sector firms in New Zealand are annually revalued upward or downward using a "modified historical cost system" (p. 289). This valuation method is based on net current value which is the same as net realizable value (NRV).[12] In the private sector, the revaluations adopt an existing use perspective. Thus, the stockholders' residual contains market-based valuations. In the public sector, fixed asset valuation guidelines are outlined in the Public Finance Act of 1989, Public Finance Amendment Act of 1992, Local Government Act of 1974 and amendments, *Statement of Public Sector Accounting Concepts* (New Zealand Society of Accountants, 1987a), Public Sector Accounting Statement No. 1, *Determination and Disclosure of Accounting* policies for *Public Sector Service Oriented Activities* (New Zealand Society of Accountants, 1987b), and *The Third Report of the Tertiary Capital Charge Feasibility Study Task Force* (Task Force, 1993). With some qualifications, as will be noted, these statutes and standards generally adopt a NRV basis to value fixed assets in combination with historical cost.

The New Zealand government's TF residual contains a combination of valuation methods. For the year ended June 30 1993, the consolidated financial statements of the New Zealand government reported that land and buildings are recorded at NRV, military equipment is recorded at depreciated replacement cost, and plant and equipment is recorded at its historical cost (New Zealand, 1993).[13] The government's TF reflects mixed valuation layers. In contrast, in U.S. public sector reporting, exclusive of SLG's governmental-type funds, this residual represents valuations based on historical cost at the time of acquisition.

A local government's net assets include its nondepreciable community assets. Community assets are "infrastructure assets which have no determinable useful life and provide a social service rather than a commercial service" (New Zealand Society of Accountants, 1987a, 347). In the Wellington City Council Annual Report for 1992-1993, community assets such as art collections, monuments, historical books and zoo animals are valued at either NRV or estimated replacement cost (Wellington City Council, 1993). In this financial report, realizable values, historical cost, and depreciated replacement cost methods are used to value Other Fixed Assets. Thus, the residual for a local government is based on a number of valuation methods.

As these methods have been adopted, valuation questions have arisen, and some of these valuation questions are still undergoing review. They include, for example, the valuation of assets donated to nonprofit entities,[14] the interest rate to use in capitalizing self-constructed assets;[15] and a review of the various valuation methodologies. The latter issue is analyzed most recently in *The Third Report of the Tertiary Capital Charge Feasibility Study Task Force* (Task Force, 1993). The report analyzed fixed asset valuation issues for all post-high school institutions in New Zealand.[16] These entities are considered to be part of the Crown. The Task Force recommended the use of the higher of NRV and the optimized depreciated replacement cost (ODRC) as the preferred valuation methods for tertiary sector fixed assets. ODRC represents the cost of replacing existing assets with modern equivalent assets, i.e., those which provide the most cost efficient and effective means for providing current services. The reasons justifying these choices over historical cost valuations provide valuable insights into the governmental accounting model used in New Zealand.

For example, the Task Force in its study did not focus directly on fixed asset valuations *per se*, but instead its primary concern was directed at determining correct equity valuation. The better equity estimate was recognized as the value at which equity would trade in the market place. As that figure was not available for governments, the projected free cash flows discounted by a market risk adjusted rate of return was selected. It is instructive to note that the reasoning for valuations did not begin with the fixed assets to be valued, but rather with the correct valuation of the residual instead. The reason the report recommended the adoption of NRV and ODRC is their value as surrogates for discounted cash flow when it was impossible to compute the discounted cash flow.

Underlying these decisions is a concern that the capital of the organization be maintained and conversely that costs are properly recorded. In this sense, the Crown is acting as the owner of assets, and as the owner it requires an accurate evaluation as to whether its capital is being maintained. One view of capital maintenance focuses on the correct reporting of an entity's physical capital. Thus, the maintenance of the organization's capacity to produce services or units given a level of fixed asset investment is important in this approach. Another view of capital maintenance focuses on the ability of the organization to maintain its financial capital or its purchasing power. Of course, historical costing recognizes the cost of replacing the actual purchase price of the fixed asset.

The New Zealand approach appears to favors a market-based perspective to capital maintenance, but it incorporates other approaches as well. Thus, the Crown recognizes NRV where it is most significant, i.e., with buildings and land, and the Task Force recommends the higher of NRV or ODRC for the valuation of fixed assets as surrogates for market values. Valuations based on physical capital and historical costs are also used. The

perspective of the Crown, as an owner, requires accurate valuations and that goal is more achievable with several valuation methods.

COMPARISONS OF THE GOVERNMENTAL REPORTING MODELS

In the U.S., two methods of accounting are recognized as being generally accepted accounting principles (GAAP) in the governmental area. They are the modified accrual (MA) and accrual methods. Under the U.S. model for SLG's, the choice of accounting method is related to the fund, i.e., governmental (expendable) or proprietary (nonexpendable). At the Federal level and with nonprofit organizations, an accrual-based model is used. Although the accrual method is used in governmental accounting in the U.S., it is not the same accrual method that is used in New Zealand. Therefore, three basic governmental reporting models need to be compared. Several characteristics of these models are illustrated in Table 2.

In Table 2, the only similarity between U.S. and New Zealand accrual accounting is that both methods recognize current and long-term liabilities when they are incurred. The differences in the fixed asset valuation methods as well as capital charging have been previously explained. The difference in the equity balances is reflective of the variation in fixed asset valuation methods followed by the two accrual methods. Dollar-for-dollar accountability differences will be discussed later.

MA is a flow of financial resources measure that brings a working capital definition to the changes in financial position. In Table 2, this perspective is illustrated with the recording of only current assets and liabilities and the adoption of a current period focus on the matching of revenues and expenditures. Both accrual methods adopt a more long-term view of the matching concept as compared with the MA accounting.

When these three models are compared, total dollar comparisons are difficult to make due to the different criteria applied to dollar recognition, and time period variations as to when financial information is recorded. For example, MA will not always record year end liability for interest expense in the same period as that expense is recorded under accrual methods. Additionally, MA accepts cash dollars expended in its definition for dollar recognition; whereas, U.S. accrual intertwines cash dollars and estimated dollars. The latter

Table 2. Characteristics of Government Accounting Models

Characteristic:	*Modified Accrual*	*U.S. Accrual*	*New Zealand Accrual*
Asset Valuation	Only current assets at cost	Historical Cost	Combination of Methods
Liability Recognition	Only current liabilities when incurred	All liabilities when incurred	All liabilities when Incurred
Equity Balance Represents	Current Assets - Current Liabilities	Assets - Liabilities	Readjusted Assets - Liabilities
Dollar-for-Dollar Accountability	Strongest Recognition	Weaker Recognition	Weakest Recognition
Capital Charge Recorded	No	No	Yes
Perspective of Matching Concept	Current period, Only	Short-Term	Long-Term

case occurs when historical dollars of depreciation are allocated to fiscal periods based on estimates of usage. In New Zealand accrual, both previous dollar definitions for financial information are combined with a forecasted dollar. Forecasted dollars are the expenses recorded on a department's financial report for capital charges which are strongly affected by forecasted inflation levels in the forthcoming year. Thus, the model with the most internal comparability among the recorded dollar amounts is MA, and the system containing the most internal variability is New Zealand accrual.

In addition to dollar comparability, the internal cash flow levels differ among the models. The potential cash flow effects are illustrated in Figures 1, 2, 3. The figures provide a cash flow analysis over a five-year period for a hypothetical government agency using the three models of accounting. In these examples, expenditures, depreciation and capital charges are fully funded with appropriations or revenues each year. Furthermore, there are no outstanding liabilities at year end, to avoid the time period variability in regard to recording these amounts. The assumptions for the example follow:

ASSUMPTIONS FOR FIGURES 1, 2, AND 3

All agency liabilities are paid at the year end. The only assets used by the agency are fixed assets, and no new fixed assets are purchased during the five-year period.

Fixed Assets (Historical Cost) $9,000,000

Current Year's actual spending is assumed to be equal to appropriations and funding is provided at a level to ensure no deficit or excess occurs.

Expenditures\expenses paid each year are $2,000,000

Capital charge rate is 8% of the net fixed asset balance at the beginning of each year. The amount of the capital charge increases each year's appropriation.

Depreciation Methods:

U.S. Accrual:Straight-line, no salvage value, 5-year life

N.Z. Accrual:Depreciated replacement cost (straight-line, subject to revaluations), no salvage value, 5-year life

Fixed Assets are revalued at the end of 3 years. The revaluation is based on replacing the existing asset after 3 years of use.

	Year	$ Valuation
Original Cost	1	9,000,000
Revaluation	3	7,500,000

Assumed cost of a new asset at the end of the 5 years is $12,000,000.

Figure 1 shows the income statement and cash flow information under MA. It can be seen that there is a zero deficit/excess every year, and the total cash retained within the organization after the five-year period is zero. Thus, the agency has no retained cash flows with which to purchase a new asset. Figure 2, on the other hand, shows a different financial picture for the U.S. accrual method. Here, the deficit/excess is still zero, but at the end of the five-year period, the agency has retained $9,000,000 of cash which is equal to 47%

A. Income Statements

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000
Less: Expenditures	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Deficit or Excess	$ 0	$ 0	$ 0	$ 0	$ 0
B. Cash Retained:	$ 0	$ 0	$ 0	$ 0	$ 0

C. Total Cash Retained: Zero
D. Percent of past funding retained: None

Figure 1. Cash Flow Analysis Under Modified Accrual Accounting

A. Income Statements

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues	$3,800,000	$3,800,000	$3,800,000	$3,800,000	$3,800,000
Less: Expenditures	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Depreciation*	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000
Deficit or Excess	$ 0	$ 0	$ 0	$ 0	$ 0
B. Cash Retained:	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000
C. Total Cash Retained:	$9,000,000				
D. Percent of past funding retained:	47%				

Note: *Straight Line Depreciation Method= Historical Cost of Asset ($9,000,000)/Asset's Life (5) = $1,800,000

Figure 2. Cash Flow Analysis Under U.S. Accrual Accounting

of its previous funding or revenues. Assuming depreciation is funded during the five-year-period, the agency will have $9,000,000 to replace its fixed asset at the end of the period. This will not be enough to replace the asset which now costs $12,000,000, but the agency is in a better cash position than if MA had been used.

Under New Zealand accrual, in Figure 3, funding is provided for both depreciation and capital charges. In this example, the deficit/excess is still zero, but the cash retained within the agency is now $15,528,000 at the end of five years. An agency using this model of accounting would have retained enough of its cash flow to purchase a new fixed asset. Under this method, the percent of past funding retained within the agency is 61%, when considering the effect of the capital charges and depreciation, and 51% without the capital charge effect. The cash flow percent retained is shown both with and without the capital charge effects as the cash flow from capital charges will only be retained within the agency if surplus or nonfunctioning fixed assets are eliminated. Therefore, the actual cash flow retained is likely to be between the two computed percentages.

Although it may appear that the "best" model for governments is accrual, these examples raise several issues that should be clearly decided before any accounting model is selected over another. For example, should accounting models be adopted without considering the organization's decision making procedures? Do any of the accounting

A. Income Statements

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues	$4,520,000	$4,376,000	$4,232,000	$6,350,000	$6,050,000
Less: Expenditures	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Depreciation*	1,800,000	1,800,000	1,800,000	3,750,000	3,750,000
Capital Charge*	720,000	576,000	432,000	600,000	300,000
Deficit or Excess	$ 0	$ 0	$ 0	$ 0	$ 0
B. Cash Retained:	2,520,000	2,376,000	2,232,000	4,350,000	4,050,000
C. Total Cash Retained:	$15,528,000				
D. Percent of past funding retained:	(a) Inclusive of capital charge: 61% (b) Exclusive of capital charge: 51%				

Note: *Depreciated Replacement Cost Method; **Capital Charge: Beg. Balance x Capital Charge:

	Replacement Cost	Carrying Value	Remaining Life	Depreciation		(Net)		Rate	
Year 1	$9.000.000	$9.000.000	[illegible]	[illegible]	Year [illegible]	$9,000,000	x	.08	= $720,000
2	9,000.000	7.200,000	4	[illegible]	[illegible]	7,200,000	x	.08	= 576,000
3	9,000,000	5.400.000	3	1,800,000	3	5.400.000	x	.08	= 432,000
4	7,500,000	7,500.000	2	3,750,000	4	7,500,000	x	.08	= 600.000
5	7.500.000	3,750.000	1	[illegible]	[illegible]	3,750,000	x	.08	= 300,000

Figure 3. Cash Flow Analysis Under New Zealand Accrual Accounting

models supersede legislative decision making authority? The answers to these questions lend varying degrees of support to one system of accounting over another.

THE DECISION MAKING IMPLICATIONS FROM ACCOUNTING MODEL CHOICES

GAAP for governments in the U.S. does not require the recognition of depreciation by SLG's nor does any government recognize a charge for capital or revalue its fixed assets.[17] But, there is growing support for the recognition of more accrual-based methods in government financial reporting than in the past. Therefore, the issues surrounding the recent change from a cash-based system to accrual accounting in New Zealand provides a useful precursor of the potential effects that could occur in the U.S. Reform implications are also important for organizations currently using accrual based methods, such as non-profit organizations and the Federal government, as it provides insights into how accounting methods quietly redistribute governing powers (Aiken, 1994).

In New Zealand, new methods of accounting were accompanied by changes in the organizational structure of government. Thus, the purpose of government reform was more extensive than introducing a new model of accounting. Instead, the reforms created a more business-like mode of operations, and additionally a change to accrual accounting. The reforms affected the working relationships between parliament, cabinet ministers, and the CE's of the various departments. The organizational reforms have created a form of managerial empowerment at higher administration levels along with the goal of expanding these managerial methods to all levels.

From a political perspective, these changes have a number of significant effects. For example, under accrual methods as compared with cash methods, it becomes easier for departmental managers to use accounting methods to manipulate financial statement figures, e.g., revaluations, level of gains recognized on disposal of assets, revenue timing,

etc. In other words, there is an incentive for managers to "engage in financial entrepreneurship" (Johnson & Kaplan, 1987, 197). This trend can become accelerated as the importance of dollar-for-dollar (DFD) accountability is decreased (Table 1). DFD accountability can be described as the stewardship role held by elected bodies, such as Congress and parliament, over appropriations. DFD accountability ensures that after the allocation of all monies have been subjected to public debate and appropriated, reporting measures are in effect to ascertain on a dollar-for-dollar basis that expenditures are made according to legislative intent. DFD accountability is reduced when the legislative body transfers expenditure authority, normally reserved for elected representatives, to professional government managers. The transfer of authority occurs when professional managers use previously generated cash flows for expenditures that have not been subjected to the usual legislative oversight and debate. Thus, accrual accounting methods which increase the internally generated cash flows available for managerial allocations have the potential to redistribute legislative authority and result in unintended uses for public monies (Aiken, 1994). Before capital charging and depreciation methods can be recognized and funded in the U.S. governmental accounting models, the issue of legislative DFD accountability and management empowerment must be resolved.

Figures 1, 2, and 3 illustrate that the amount of the cash retained within an agency varied with the accounting model. In these examples, MA retains no cash for the asset replacements. Thus, when an asset needs to be replaced, department heads must request an appropriation for the exact dollar amount of the replacement from elected representatives. Currently, when depreciation expense is recorded in U.S. governmental accounting models, it is not a funded expenditure. If it were funded, as illustrated in Figure 2, the effect would be to increase the internally generated cash flow of the department. Thus, a department manager may not have to request an appropriation for the entire amount of the asset replacement from the elected legislative body, and DFD accountability is reduced. When professional managers are allowed to make these resource allocation decisions, legislative authority is transferred from elected representatives to professional managers. In New Zealand, internally generated cash flows are provided for asset replacement through the full funding of depreciation expense in budget appropriations. Additionally, capital charging can provide internally generated sources of funds for asset replacements if surplus assets are eliminated during the year. Agencies are responsible for the replacement of their own assets, and they do not need legislative authority for resource allocations during the year as long as internally generated sources are adequate, and the agency's net assets do not increase. It is believed that this shift of responsibility from an elected legislative body to professional managers is justified by the forthcoming increases in efficiencies. As a result, the recognition of depreciation—at both the national and local level—and capital charging at the local level are legislatively enacted accounting practices.

The U.S. Constitution and similarly-written state constitutions give appropriation authority to the legislative branch of government (U.S. Constitution, Article I, Section 9, No. 7). It is likely that if professional managers made independent resource allocations with internally generated cash flows, as is done in New Zealand, it would be a violation of legislative authority under the U.S. and state constitutions. To maintain a system of checks and balances within government, there have been no legislative statutes in the U.S. providing for the appropriation of non-cash expenditures, and the discretionary appropriation of that funding by governmental managers. Therefore, the

model adopted under a Westminster form of government in New Zealand cannot be easily transferred to the U.S. without significant changes in its practices.

In New Zealand, detailed job descriptions and regulations, remote control management styles, micro-managing legislative bodies, overcontrolling accounting systems, hierarchical leadership, and decoupled management are no longer accepted methods of operation. The goal focus in New Zealand has shifted from micro-managing input measures to determining and achieving outcomes. It is accepted that professional managers should have the right to make resource allocation decisions in the most efficient manner possible to attain outcomes. It is unlikely that the change to accrual accounting without accompanying increases in managerial empowerment would have provided government managers with the ability to go beyond the traditional fiscal year-end perspective.

CONCLUSIONS

In New Zealand, it was only after changes were made in the management relationship that accounting practices were changed. New age management techniques view government with a different perspective, and as a result, reported financial information needs to efficiently support managers in their new role. These accounting practices allow government managers to include depreciation and capital charges on revalued assets in the cost of departmental operations. Thus, a new definition of costing is used to answer interperiod and intergenerational equity questions. With this new cost definition, managers can make clearer cost comparisons when they act as purchasers of government services. With managerial responsibility for the assets clearly assigned, these new accounting practices allow a manager to determine if departmental capital is being maintained. The implementation of this new management philosophy causes the professional manager to become important in making resource allocation decisions and accountable for the resulting outcomes.

Even with all these positive characteristics, it is hard to determine how New Zealand's governmental financial practices could be transferred to the U.S. This is due to the way appropriation authority is constitutionally assigned within the legislative branches of government in the U.S. Without instituting resource allocation restrictions on internally generated funds, New Zealand's approach cannot be used in U.S. governmental accounting models. Unfortunately, such restrictions defeat the purpose of innovative management styles.

NOTES

1. These legislative reforms are based on The State-Owned Enterprises Act 1986; The State Sector Act 1988; The Public Finance Act 1989; and The Public Finance Amendment Act 1992.
2. It should be noted that funding for depreciation was introduced to the New Zealand accounting model prior to the use of capital charging. The method of accrual accounting used in New Zealand is explained in more detail later in the paper.
3. Here, the term department and agency mean the same thing. An example of a department or an agency in the United States and New Zealand is the Treasury. The major distinguishing characteristic of these entities is that they are considered a primary accounting unit below the consolidated financial reports of the entire government.

4. SOE's do not pay a capital charge, but they do pay dividends into the Crown as they are state-owned businesses. Crown owned entities make up of the remainder of the Crown's entities and, at the present time, they do not pay a capital charge or dividends.
5. It should be noted that the computation required to determine the capital charging rate acknowledges that the cost of equity and the cost of debt are different, and inflation is a recognized variable in the rate. Where this rate has been proposed or used in the health care area, the cost of debt and capital are assumed to be equal, and there is no adjustment for inflation (Goldschmidt & Gafni, 1991).
6. A government department may not have the ability to incur debt. Therefore, the justification for including leverage within the cost of capital may be questioned. The justification for applying a cost of capital with leverage to a nonlevered entity is due to the fact that private sector cost of capital may not be affected by leverage, i.e., even if unleveraged private sector corporations could be observed their cost of capital might be equal to those firms with leverage. Miller and Modigliani (1958; 1963) argue that in the absence of bankruptcy costs or personal taxes, the cost of capital declines monotonically with leverage, because debt possesses a corporate tax advantage (interest expense is deductible). However personal taxes in general are more onerous for debt securities than for equity. Therefore, although debt capital brings with it a corporate tax saving, it also possesses a personal tax disadvantage. Miller (1977) has argued that these two tax effects offset each other, and with low bankruptcy costs, the cost of capital is invariant to leverage levels. Further models conclude that there is an minimum cost of capital. Thus, the application of a leveraged cost of capital to an unleveraged entity is not considered to be unreasonable.
7. It should be noted that this analysis is specifically directed at government departments which are similar to agencies in the U.S. In addition, The Crown owns other crown entities, such as Regional Health Authorities and the privacy Commissioner, and state-owned enterprises which are rapidly being privatized.
8. The capital charge rate is not considered to be the same thing as a hurdle rate for each of the wide range of assets in which a department invests. McCulloch (1991, 23) provides the following justification "risk associated with specific assets or projects may not be the same as that applying to the department as a whole."
9. The calculations are made as follows for the low rate:

$$\begin{aligned} ke &= Rf + (Em\text{-}Rf)B \\ &= 6.3 + (4.0).5 \\ &= 8.3 \end{aligned} \tag{1}$$

$$\begin{aligned} kg &= [ke/(1\text{-}t)]\,(1\text{-}L) + kdL - i \\ &= [8.3/(1\text{-}.15)]\,(1\text{-}.5) + 6.8\,(.5) - 1.3 \\ &= [9.765\,(.5) + 3.4] - 1.3 \\ &= [4.88 + 3.4] - 1.3 \\ &= 7.0. \end{aligned} \tag{2}$$

10. In the 1992-93 budget, the rate was 13%; and, in 1993-94 it was 10.9%. These standard rates only applied if a department had not negotiated a specific rate with the Treasury. If a department did negotiate a rate, the same format and parameters were used except for beta (and its accompanying leverage). The former parameter was taken from that of a comparable industry.
11. In order to eliminate any managerial incentives to manipulate the capital charge, it has been suggested that a government department charge should be proportional to the time that the capital is employed by the department. For this reason, the base for the capital charge is reflective of the beginning period capital + (capital injections in the period *x* proportion of the period from injection date) less (capital repayments in period *x* proportion of period from repayment date). This calculation reduces the incentives for departments to acquire capital just after the beginning of the period.
12. *Accounting for Fixed Assets*, Statement of Standard Accounting Practice No. 28 (New Zealand Society of Accountants, 1991). The definition for net current value is "the price for which an asset might reasonably be expected to be sold at the operative date, less the cost of disposal that could reasonably be anticipated" (p. 287). The standard setting framework in New Zealand has recently been reformed. In these reforms, the Accounting Standards Review Board (ASRB) was established. The ASRB will undertake a review of all New Zealand accounting standards including SSAP 28.
13. These distinctions are related to the cost distortions which can arise from using historical costs over an extended period of time. For example, plant and equipment are current operating assets that are replaced with regularity, and purchase cost valuation creates little cost distortion over the relatively short life of these assets; whereas land and buildings are purchased for long-term operations, and therefore are revalued to NRV.
14. Donated assets are those assets which are given to an institution by a nongovernment third party without an expectation of any tangible return being received. These gift assets are not included within the asset base. One reason for their exclusion is the disincentives created for the donors. In other words, donated assets would cause a higher capital charge; therefore, in order for the donation to be fiscally neutral, the donor would also have to contribute funding equivalent to the capital charge in addition to the donation —every year.
15. When borrowings are involved in the construction of an asset, a determination must be made as to the amount of the interest expense incorporated into the cost of the asset. In the U.S., only those interest costs which are actually incurred during construction are capitalized into the cost of the asset. An imputed interest cost equal to the cost of capital is not incorporated into the cost of self-constructed assets. In position papers prepared for the Treasury, the capital charging rate is suggested as the rate that should be used to determine the amount to capitalize with self-constructed assets. This perspective corresponds to a valuation basis reflective of market valuations which are influential in the New Zealand accounting model.
16. The potential adoption of capital charging methods by universities has raised concern about the "homogenous products effect." In cases where governmental

budget appropriations are based on units of throughput, such as the number of students at a university, the effect of capital charges can be disproportionally weighted against those entities with the highest investment in physical facilities. Consider the extreme example where University A has no capital facilities and University B has $100,000,000 capital plant; and both have the same number of students. With a 10% capital charging rate, A pays no charge; whereas B will pay $10,000,000 back to the Crown. If the annual budget appropriation is $8,000,000 to each university based on total student enrollment, B will have to return $10,000,000 to the Crown and face at least a $2,000,000 deficit; or reduce its fixed assets. University B will not need to use any of its budget appropriation to pay capital charges. This situation arises with budget appropriations based on a per unit calculation.

17. It should be noted that the U.S. Postal Service issued a draft proposal endorsing economic value added (capital charges) on January 1996.

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Factors Affecting an Analyst Forecast Revision—Taiwan and the United States: A Comparison

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Key Words: Analyst forecast revisions; Developing and Newly Industrialized Countries; Earnings per share; Financial analysis; Taiwan

Abstract: *The purpose of this study is to compare factors affecting analyst forecast revisions in Taiwan and the United States. Identical questionnaires were sent to practicing analysts in both countries to determine the type and source of information used in revising a forecast of earning per share for a firm. The findings indicate that Taiwanese analysts rely more on industry related data, government policy and secondary information sources and less on public and private disclosures by management than U.S. analysts. These results reflect socioeconomic factors and the stage of development of the financial analysis industry of Taiwan.*

INTRODUCTION

Although much has been written in the accounting literature on financial analysts in developed countries, such as the United States (US), little has been documented on the analyst in developing and newly industrialized countries (D/NIC). This study addresses this issue by examining differences between Taiwanese and US financial analysts as to factors considered important in revising earnings estimates for a firm. Forecasting earnings per share (EPS) is a function performed by most analysts in their assessment of future firm performance. In developed countries, analysts serve as information intermediaries between management and the investment community. Investors consider analyst forecasts of EPS and other forward-looking information in decisions to buy and sell securities. In emerging markets, local analysts' suggestions and recommendations are relied on, not only by local investors, but by foreign investors and analysts as well. As Taiwan is actively encouraging foreign investment, it is important to better understand factors influencing earnings estimates made by Taiwanese analysts.

An additional motivation for this study concerns capital market research in emerging markets. Although still very much in its infancy, capital market studies of D/NICs gener-

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ally require a model for investor expectation of earnings. The current model of choice for studies involving developed capital markets is the financial analyst forecast. It remains to be seen if this is also an appropriate model for emerging market studies.

Taiwan was selected as representative of a rapidly developing D/NIC. This country has one of the fastest growing economies in the Asian-Pacific region. In addition, to promote its position as an operations center for the area, the Taiwanese government is actively encouraging foreign, private investment. This is reflected in the increased growth and activity of the Taiwanese Stock Exchange (TSE) as well as the financial analyst community. Taiwan is, therefore, an appropriate choice for the investigation of the role and status of financial analysts in emerging markets.

The results of the study indicate significant differences in the importance of many factors used by Taiwanese and US analysts in revising an earnings forecast for a firm. These differences reflect the importance of various financial and nonfinancial factors, different analytical approaches and the relative newness of the securities industry in Taiwan. The findings suggest that the role of the Taiwanese analyst as an information intermediary is limited and that the use of analyst forecasts as models for investor expectations of earnings is inappropriate at this time. With a rapidly developing securities market and increased foreign investment, however, this situation is expected to change.

The remainder of this paper is organized as follows. The next section provides background information including some differences concerning capital markets, reporting requirements, and financial analysts in Taiwan as compared with the US. This is followed by a description of the research design and the development of the test instrument. Next, the results of the study are presented. The paper concludes with a summary of the findings, and the limitations of the study.

BACKGROUND

Capital Markets In Taiwan and the US

The "Four Tigers," South Korea, Singapore, Hong Kong, and Taiwan, represent some of the world's fastest growing economies. Annual growth rates for the next several years for these Asian-Pacific countries are estimated at 7 to 10 percent, compared with about 3 percent for the US (Naisbitt and Aburdene, 1990). Taiwan, which has enjoyed a positive trade balance since 1981, is the second largest investor in the area after Japan (Gargan, 1995). With a population of twenty-one million and per capita gross national product of US $12,640, the Vice Chairman of the Council for Economic Planning and Development in Taiwan notes that this represents an enormous consumer market in terms of purchasing power (Schive, 1994).

In contrast with other strong Asian economies, such as Japan and South Korea which are conglomerate-dominated, small businesses are the basis of the Taiwanese economy. Although there has been increasing stock market activity since 1986, the securities market in Taiwan is still at the developmental stage. Unlike the US securities market which has a substantial number of institutional investors, investors in Taiwan are primarily individuals. In 1991, for example, 90% of stock market activity came from individual investors representing approximately 20% of the population (Taiwan, 1990-1991). In contrast, insti-

tutional investors accounted for over seventy percent of trading activity on the New York and Tokyo stock exchanges. As of September 1995, there were 331 listed companies and 367 listed stocks on the Taiwan Stock Exchange (Status of Securities, 1995).

The Role of the Security Analyst

Whereas the US has a mature security analysis industry, this is just developing in Taiwan. One indication of the difference regarding this industry in the two countries is the number of practicing financial analysts. The Association for Investment Management and Research (AIMR), the largest US association for investment management professionals, had over 17,700 certified financial analysts as members in 1992. Database services, such as First Call and I/B/E/S, which provide earnings estimates for publicly traded companies, receive forecasts from thousands of analysts representing a substantial number of investment and brokerage firms. In comparison, based on information provided by the Taiwan Stock Exchange and interviews with members of the Taiwanese financial community, as of 1995, there were approximately 230 brokerage firms in Taiwan. Of these only 30 would qualify as large brokerage firms with 8 to 15 analysts of a total of 25 to 30 employees. Most Taiwanese brokerage firms employ only two to three analysts. These smaller firms typically have no research department. Their analysts obtain information about listed firms from government agencies, university researchers, and publications from the larger brokerage firms.

Security analysts in the U.S. are catagorized as either buy or sell-side analysts. The buy-side analyst typically works for a pension, insurance, or mutual fund and reports to a portfolio manager. Considered a support position in a large brokerage or investment firm, the sell-side analyst is responsible for issuing annual and monthly earnings estimates, research reports and buy/sell/hold recommendations on companies followed. The recommendation is used externally by the investment firm's brokers to advice clients.[1] In Taiwan, no distinction is made between buy- and sell-side analysts as the analyst performs both functions.

Market Efficiency, Government Indicators and Analyst Forecast Error

There is considerable evidence of a significant association between security price changes and analysts' forecast revisions of firm earnings (e.g., Jennings, 1987). This association suggests that US investors find analysts' forecasts to be credible. However, this is not the case in Taiwan where evidence indicates that earnings forecasts by Taiwanese analysts are generally not highly regarded. Wu (1993a, 1993b), for example, observes that, although forecasting by both analysts and management in Taiwan has improved due to greater use of computer packages and statistical tools, analyst forecasts are neither reliable nor credible.

One reason for analyst forecast error might be insufficient or untimely economic information provided by the government. Government economic indicators are frequently considered in corporate earnings estimates. In Singapore, an Asian-Pacific D/NIC with characteristics similar to Taiwan, analysts were recently called to task for overestimating corporate earnings and misleading investors (Siong, 1996). Teo (1993) suggests that one

reason for the inaccuracy of analysts' forecasts in Singapore is the lack of timely and sufficient economic indicators provided by the government. Concern was expressed that neither economists nor analysts had foreseen the double digit economic growth in Singapore during the second quarter of 1993. However, this would have been a difficult task as information, such as exports of electronic products, was unavailable. In addition, other indicators (e.g., retail sales, bank loans, and money supply) for the period were not released until several months later. Without monthly (or more frequent) releases of important economic indicators and information by the government, it is often difficult for analysts to accurately forecast corporate earnings.

Dawson (1982, p. 20) concludes in his study of the Hong Kong securities market that this market "is not efficient in either the strong or the semi-strong form." Chan, Gup, and Pan (1992) provide evidence that stock prices in major Asian markets (Taiwan, Hong Kong, South Korea, Singapore, and Japan) and the United States are weak-form efficient. Nonetheless, the Taiwanese security market is perceived as "going through its adolescence" and characterized by extreme volatility (Taiwan, 1990-1). The greater the volatility, the more difficulty the analyst will have issuing accurate stock recommendations.[2]

Analytical Techniques Used by Analysts in Taiwan and the US

Wu[3] implies that Taiwanese analysts rely on *technical analysis* for estimating firm earnings. This system relies on time series models and trend analysis for forecasting EPS. Foster (1986) notes that financial statement data of specific firms is rarely used in this type of analysis.

Several studies (e.g., Chugh and Meador, 1984) indicate that for security analysts in the U.S. *fundamental analysis* rather than technical analysis is the primary approach used for stock selection. Fundamental analysis requires a detailed analysis of financial statements in order to determine the intrinsic or underlying value of the firm. Buy and sell recommendations are then based on whether current market price under- or overvalues the firm. The different analytical approaches suggest that U.S. analysts will consider annual reports and other firm-specific information to a greater degree than the Taiwanese analyst.

Reporting Requirements in Taiwan and the US

Reporting requirements in the US and Taiwan are similar in many respects. In the U.S., publicly traded companies must file audited annual and unaudited quarterly statements with the SEC. In Taiwan, all publicly traded companies listed on the TSE must also file audited annual and semi-annual financial statements with the Taiwan Security Exchange Commission (TSEC). In addition, for Taiwan, quarterly statements reviewed by a CPA accredited by the TSEC and a monthly sales report need to be prepared, submitted to the TSEC and made public. Unlike the U.S., any voluntary forecasted information by a Taiwanese firm must be reviewed by a CPA and officially filed. Management is not required, however, to provide forward-looking information to the investing public. Finally, as in the U.S., any event significantly affecting shareholder interest must be immediately reported to the TSEC and disclosed publicly.

Analyst Forecasts as a Model for Investor Expectation of Earnings

Market studies in the financial and accounting literature frequently involve the association of unexpected earnings and security price returns. To test this association, a measure of investors' expectation of earnings must be determined. Since this is unobservable, a proxy is used. The earliest market studies used statistical models which incorporated past annual or quarterly earnings data. Based on market association and predictive ability, the current proxy of choice, however, is the financial analyst forecast.[4]

Although there have been a limited number of market studies involving D/NICs,[5] databases have been developed that might encourage more research in this area. The International Finance Corporation, an arm of the World Bank, maintains a machine-readable database on 17 emerging financial markets across the world. Private sources of analyst earnings forecasts, such as the First Call Corporation and I/B/E/S/, not only cover firms listed on major markets, but individual stocks in developing and emerging markets as well.

In general, the few market studies available in the literature involving D/NICs use statistical models as surrogates for earnings expectations. It is likely, however, that this will change as forecasts and recommendations by financial analysts in emerging markets become more reliable. Although this study does not provide empirical evidence as to the use of Taiwanese analyst forecasts as a proxy, some indications are noted as to the current appropriateness of this surrogate for investors' expectation of earnings.

THE RESEARCH DESIGN

Development of the Test Instrument

A survey research design is used to examine factors used by financial analysts in Taiwan and the U.S in revising a forecast of EPS. Identical questionnaires were developed in Chinese and English based on prior surveys (e.g., Lees, 1981) and following discussions with US and Taiwanese financial analysts. The questionnaire was pilot tested at investment firms in New York City and Taipei, Taiwan. Additional adjustments and clarifications were made to the questionnaire based on the results of the pilot tests as well as on the comments and suggestions of participants.

The questionnaire consists of three sections. The first section requests demographic information including age, gender, position, years of experience, and educational level. The second section consists of 43 factors considered by analysts in revising an EPS forecast for a firm. Respondents indicate on a 5-point Likert scale the relative importance of each factor. Although randomly placed in the questionnaire, the factors cluster around the following three areas of inquiry: (1) the relative importance of the type of information (government, industry, firm-specific and accounting); (2) the relative importance of the source of the information (informal or formal announcements by management, forecasts by other analysts, investor reaction, and comments by suppliers and customers); and (3) the importance of the factor regarding analytical techniques (i.e., fundamental and technical analysis) used by the financial analyst.

The third and final section of the questionnaire asks the respondent to rank in decreasing order of importance the five factors among the 43 in the second section considered most important in revising an earnings estimate. This section is included to test the internal validity of the instrument. The results of the rankings are consistent with responses to questions in the second section of the questionnaire for both US and Taiwanese respondents.

Survey

The English version questionnaire was sent to 2,000 practicing financial analysts in the US in two separate mailings, an initial mailing and a follow-up to non-respondents.[6] The list of analysts was randomly generated from names provided by a major professional organization of investment practitioners. There were 370 returned questionnaires resulting in an 18.5 percent response rate for the US mailings. In Taiwan, due to the considerably smaller financial analyst community, 140 questionnaires were sent in two separate mailings to analysts working in nineteen of the country's largest security firms. Non-respondents were personally contacted to encourage participation. Fifty-one completed surveys were received resulting in a 36 percent response rate.[7]

Statistical Tests

Since the responses are measured on an ordinal scale, the nonparametric Mann-Whitney U test is used to compare the responses of the two groups. The test is performed on both the full sample of 370 U.S. respondents and a subsample of 96 U.S. analysts. For the subsample, U.S. analysts are matched with Taiwanese respondents on the basis of age, experience, gender, firm size and education. By controlling for these demographic factors, the effect of comparing a relatively mature U.S. security analyst industry to a developing one in Taiwan is minimized. The results of the testing, however, were very similar for both the full and reduced samples. As such, with the exception of demographic information, only the results of the latter are reported below.

RESULTS

Demographic Information

The profile of the U.S. and Taiwanese respondent based on total responses received reflect the difference in maturity of the financial analyst profession in the two countries (see Table 1). The average age of the Taiwanese respondent is 33 years with approximately 5.5 years of experience as an analyst. The average age of the U.S. respondent, however, is 47 years with an average of 16 years in the profession. The educational level attained was similar with the majority of the respondents for both groups having an MBA or equivalent. The percentage of female respondents was greater for the Taiwanese sample (25%) than the US (17.2%).

Table 1. Profiles of the Typical Taiwan and U.S. Respondent Based on the Total Number of Completed Questionnaires Returned

Characteristic	*Taiwan*	*US*
1. Number of Respondents	51	370
2. Gender		
Male	38	306
Female	13	64
3. Year of Birth[a]	1959	1947
4. Highest Level of Education[a]		
3 = BS/BA; 4 = MS/MBA	3.8	3.8
5. Years in Profession[a]	5.5	16.0
6. Av. no. of Analysts in Firm[a]	11	16

Note: [a] mean value

Table 2. A Comparison of the Ten Most Important Factors in Revising a Forecast of EPS Between Taiwanese and US Analysts

Factor	*Ranking (based on mean responses)* Taiwanese (n = 51)	US[1] (n=96)	*Z-Statistic*[2]
• An earnings forecast by management issued in first six months of fiscal year.	1	8	2.6341**
• Changes for earnings projections in industry in which firm is included.	2	18	5.9367***
• On-site visits to company monitored.	3	6	1.7152
• Corporate management's forecast of an upward revision of EPS.	4	3	1.9742**
• Corporate management's forecast of a downward revision of EPS.	5	2	2.5970***
• Corporate management's announcement of actual interim earnings.	6	4	1.2097
• Industry reports, including pricing conditions, released in the trade press	7	13	1.0820
• Formal meetings with top management.	8	5	2.2142**
• Informal meetings or conversations with top management	8[3]	1	2.9304***
• A change in industry orders or other industry-specific trends.	10	14	1.7892

Notes: [1] Samples matched by age, gender, firm size, education, and experience.
[2] Z-Statistic is determined by the nonparametric Mann-Whitney U test.
[3] Tied in ranking with preceding factor. *** = significant at .01 level. ** = significant at .05 level.

Primary Factors in Analyst Forecast Revisions in Taiwan

To determine which factors were considered most important in revising an earnings forecast, the responses to the 43 questions are used. Factors were ranked by level of importance according to the mean response of the Taiwanese and US analysts. The Mann-Whitney U test is then used to examine the mean difference between the analysts in the two countries.The ten factors considered most important by Taiwanese analysts are

reported in Table 2. The corresponding ranking by the subset of 96 U.S. analysts (matched with Taiwanese analysts on the basis of age, sex, experience, firm size and education) is also reported. The typical respondent from both the Taiwanese sample and the subset of American respondents is a 35 year old male with an MBA, five and one-half years of industry experience, and working in a firm with eleven other analysts.

Both groups of analysts consider actual interim earnings to be important in forecast revisions. This is consistent with the results of a study by Abdel-Khalik and Espejo (1978) which indicates that quarterly earnings announcements convey information to analysts regarding the level of realizable earnings for the year. Industry reports are also considered of relatively equal importance by both groups of analysts.

There are, however, significant differences in informational value between the remaining eight factors listed as among the ten most important for the Taiwanese analyst. For example, changes in industry earnings projections are significantly more important to the analyst in Taiwan. There are several economic reasons for this finding. Taiwanese enterprises are generally smaller and likely to be involved in only one industry. Publicly traded companies in the U.S. are more diversified and involved in several different industries. Diversification minimizes the effect of industry specific events on a company.

Both groups consider informal and formal meetings with management important. This is consistent with prior results from surveys of US analysts (Lees, 1981). There is, however, a significant difference between the two as to level of importance. U.S. analysts consider both forms more important for forecast revisions than do Taiwanese analysts. This difference, due to socioeconomic factors, reflects the accessibility of management to US security analysts in their role of information intermediaries. Since the security analyst industry is relatively new in Taiwan, the analyst's role and function is not yet well defined as concerns relationships with management.

Finally, perhaps due to the CPA review process concerning management's forecasts of earnings in Taiwan, there is a difference in rank order based on the means of management's forecasts of good and bad news for the two groups.[8] For the Taiwanese analyst, good news forecasts are slightly more important than bad news. For the US respondent the order is reversed. Given the negative nature of the information and the adverse effect on market prices, it is assumed by US analysts that management will be more reluctant to issue bad news forecasts (Baginski and Hassell, 1990). Such forecasts are, therefore, considered more credible. For Taiwanese analysts, however, the issue of credibility is reduced since all forecasts by management are reviewed by a CPA. This attest function minimizes the credibility issue for Taiwanese analysts.

The 43 questions in the test instrument are classified according to (1) type of information; (2) source of information; and (3) use of information in analytical procedures. Tables 3, 4, and 5 show the test results for the U.S. and Taiwanese samples. The results for each of these three classifications are discussed in the following sections.

The Importance of Information Type on Analyst Forecast Revisions

Analysts were asked to determine the importance of factors relating to four *types* of information: economic, industry, firm-specific and accounting. The factors relating to

each information type, the Z-statistic and significance level are presented in Table 3. These factors were randomly placed in the questionnaire.

In general, the Taiwanese analyst considers economic and industry factors as more important, and firm specific and accounting information as less important than the US analyst. Taiwanese analysts regard general economic factors to be significantly more important in any forecast revision than US analysts. Chandler and Holzer (1984) observe that it is common in D/NICs for the government to assume the responsibility of planning economic development. This is evident in Taiwan which has had a six-year National Development Plan in effect since 1991. The stated objective of this plan is for Taiwan to become a regional operations center providing connections to mainland China as well as to the rest of the Asian-Pacific area. To accomplish this, Taiwan is strengthening its "infrastructural hardware" defined as transportation and communication systems, as well as relaxing existing laws and regulations to encourage trade, investment and other international types of activities (Schive, 1994). Government actions will, therefore, have a greater effect on private enterprise in Taiwan than in the U.S. As observed earlier, there are indications of a delayed release and lack of availability of important economic indicators by the government in some Asian-Pacific D/NICs. Therefore, a reliance on macroeconomic information by analysts in these countries for corporate earnings estimates could negatively affect forecast accuracy.

While industry related factors are generally more important to Taiwanese analysts, firm specific and accounting changes have a relatively greater effect on US analysts' forecast revisions. The importance to US analysts of firm specific factors, such as a decision to restructure or reorganize, reflects the difference in the size and capitalization of companies in the two countries. Greater reliance on accounting information by US analysts suggests a stronger preference for fundamental rather than technical analysis which is more prevalent among Taiwanese analysts.

The Importance of Information Sources on Analyst Forecast Revisions

Certain questions were designed to determine differences in the importance of the *source* of information. Sources include the following: (1) formal or public disclosure by management; (2) informal or private disclosure by management; (3) forecasts and recommendations by other analysts; (4) stock market behavior; and (5) other sources, such as customers and suppliers of the firm. The results of the nonparametric tests are presented in Table 4.

There are significant differences in the importance of both formal and informal meetings with management between the U.S. and Taiwanese analysts. The reliance of the U.S. analyst on informal disclosures by management reflects the more established role of the U.S. analyst as an information intermediary between management and the investor. Anecdotal evidence in the U. S. financial press (e.g., Scism, 1993) indicates that management makes private disclosures to sell-side analysts in order to convey information to the investment community.

The relative importance (ranked ninth) of telephone conference calls to U.S. analysts is consistent with current practices by U.S. management in efficiently relaying firm-specific information to the investment community. Ranked 35 of the 43 factors in importance by

Table 3. A Comparison of the Importance of the Type of Information Between Taiwanese and US Analysts

Factor	Ranking [based on mean responses] Taiwanese (n = 51)	US[1] (n=96)	Z-Statistic[2]
Economic Information:			
• Changes in discount rate by Fed.	26	41	4.9725***
• Change in international economic or political environment	21	34	3.2954***
• Federal changes in fiscal policy	27	29	5.437***
• Regulatory changes by Fed.	18	24	1.3138
• Changes in monetary policy by Fed.	19	39	5.6620***
Industry Information			
• Changes in earnings projections for industry	2	18	5.9367***
• Industry reports released in the trade press	7	13	1.0820
• Changes in earnings forecasts for a leading firm in the industry	11	17	1.8084
• A change in industry orders and other industry specific trends	10	14	1.7891
Firm Specific			
• Changes in top management	19	28	1.3224
• Announcement to restructure or reorganize firm	20	7	3.9514***
• Changes in Research and Development expenditures for company	31	35	1.5407
• Change in the bond or commercial rating of company	39	37	2.4119**
• Articles in business periodicals on company monitored	23	40	1.2248
Accounting			
• Government documents and filings	34	10	4.3495***
• Announcement of actual interim earnings	6	4	1.2097
• Annual report for most recent fiscal year	41	32	2.9876**
• Mandatory financial reporting changes	37	20	1.8826**
• Voluntary switch in financial accounting methods (e.g., change in inventory valuation method)	24	21	1.3006

Notes: [1] Samples matched by age, gender, firm size, education, and experience.
[2] Z-Statistic is determined by the nonparametric Mann-Whitney U test.
*** = significant at .01 level.
** = significant at .05 level.

Taiwanese analysts, this type of procedure is evidently not widespread in Taiwan given the small number of analysts following each firm and the limited access to management.

The survey results suggest general agreement between the two groups regarding the importance of information from other analysts. Differences are noted, however, in the effect of market reaction on analyst forecast revisions. Although empirical studies of US analysts suggest otherwise, there are significant differences between the two groups in the relative importance of market reaction on analyst forecast revisions. Changes in the price and trading volume of a security as well as reported trades by insiders, are considered significantly more important by Taiwanese analysts. Since the security analyst industry is more developed in the US, and US analysts are compensated for firm-specific information above and beyond that which could be obtained from publicly available sources, these results might reflect the reluctance of U.S. analysts to admit reliance on other indicators of future firm performance, such as other analysts and investor expectations as reflected in the securities market.

Importance of Information for Analytical Techniques

As previously mentioned, the U.S. analyst relies more on fundamental analysis while the Taiwanese analyst apparently uses technical analysis in evaluating future firm performance. Table 5 shows the relative importance of factors related to these two techniques for each group.

U.S. analysts tend to place more importance on accounting information and numbers. The most recent annual report as well as documents filed with the SEC, such as the Form

Table 4. A Comparison of the Importance of the Sources of Information Between Taiwanese and US Analysts

Factor	*Ranking [based on mean responses]* Taiwanese (n = 51)	US[1] (n=96)	Z-Statistic[2]
Management (formal)			
• Formal meetings with top management	9	5	2.2142**
• Press releases by company	17	16	1.7019
• Management's upward revision of EPS	4	3	1.9742**
• Management's downward revision of EPS	5	2	2.5970**
• Management's revision of EPS in first six-months of fiscal year	1	8	2.0270**
• Management's revision of EPS in last quarter of fiscal year	13	11	1.0989
• Management's announcement of actual earnings	6	4	1.2097
• EPS forecast by a manager who has not met previous projections	38	30	0.8837
• EPS forecast by a manager who has met previous projections	12	12	1.2398
Management (informal)			
• informal meetings with management	8	1	2.9304**
• On-site visits to company	3	6	1.7152
• Conversations with management at Trade Shows	29	15	2.6777**
• Information from company conference calls	35	9	3.1752**
Other Analysts			
• Other analysts' buy and sell recommendations	40	38	2.3766**
• An upward revision of consensus analyst EPS forecast	15	25	1.5559
• A downward revision of consensus analyst EPS forecast	14	22	1.5590
• A leading analyst revises EPS for firm	36	31	0.6136
• Informal conversations with other analysts	22	27	0.8706
Market			
• Buying or selling of shares of stock by insiders	28	36	3.9824***
• Significant price changes in market price of company	16	40	4.9712***
• Significant changes in trading volume of firm	32	42	4.8545***
Other			
• Informal meetings with customers	43	19	3.2971***
• Informal meetings with suppliers	33	33	0.8121

Notes: [1]Samples matched by age, gender, firm size, education, and experience.
[2]Z-Statistic is determined by the nonparametric Mann-Whitney U test.
*** = significant at .01 level.
** = significant at .05 level.

10-K, are significantly more important to U.S. analysts (ranked 32 and 10, respectively) in revising an earnings estimate than comparable information available to Taiwanese analysts (ranked 41 and 34, respectively). This supports the use by U.S. respondents of fundamental analysis which relies on accounting numbers. No significant difference, however, was noted between the two groups regarding the use of forecasting models.

Since 1991, the Taiwanese government has permitted foreign institutional investors to invest directly in the TSE. The trading actions of this group of investors is thus becoming an important indicator of stock market activity in Taiwan. Since foreign investors frequently rely on fundamental analysis to determine stock trades, it is expected that this type of analysis will become increasingly more important to Taiwanese analysts.

CONCLUSION AND LIMITATIONS OF THE STUDY

There are several limitations to this study which reflect the difficulty, as mentioned by Wallace and Williams (1995) of accounting research on D/NICs. These include translation issues as well as cultural differences affecting securities markets and the financial analyst profession. In addition, although the response ratio for both groups was adequate, the relatively small population of Taiwanese analysts created a substantial difference in the number of respondents between the two groups. The small sample size of Taiwanese respondents reduces the power of the tests. Finally, as with all studies involving survey designs, data are reported *ex ante* rather than *ex post*. In other words, analysts' perceptions rather than actual behavior are examined. However, the study does contribute to the literature by providing an example of the role and function of the financial analyst in emerging capital markets. The findings have implications for investors and academic researchers in Taiwan, and by extension, other emerging markets of similar growth and economic development.

For the investor, the results of this study suggest that the role of the financial analyst in Taiwan is in the developmental stage, is not clearly defined, and, as such, differs from that of the analyst in developed countries. Unlike the US analyst, the Taiwanese analyst has more limited access to management, considers market indicators to a greater extent, and relies less on historical firm-specific data (e.g., annual reports and 10-K's).

The Taiwanese analyst does not, apparently, function as an information intermediary between management and investor to the same extent as does the US analyst. This should not necessarily be viewed negatively, as empirical research suggests possible conflicts of interest for US sell-side analysts. They can feel compelled, for example, to issue positive forecasts and recommendations for firms for which their company provides other services, such as underwriting activities (Linn and McNichols, 1993).

A second criticism regarding the US analyst's relationship with management involves the selective release of firm-specific information. The US Securities and Exchange Commission even considered mandating forecasts of financial information by management during the 1970's due to evidence of selective disclosure by management, with financial analysts being the primary beneficiaries. Anecdotal and survey evidence indicates that selective disclosure by management to sell-side analysts continues to be a common practice in the US (Williams, Moyes and Park, 1996).

Preemptive action taken by the Taiwanese government, however, should limit such practices. Concerned with investor speculation, the Taiwanese Security Administration

Table 5. The Importance of Factors Required for Analytical Procedures Between Taiwanese and US Analysts

Factor	*Ranking (based on mean responses)* Taiwanese (n = 51)	US[1] (n=96)	Z-Statistic[2]
Fundamental Analysis			
• Government documents and filings	34	10	4.3495***
• Actual interim earnings announcement	6	4	1.2097
• Annual report for most recent fiscal year	41	32	2.9876**
Technical Analysis			
• Changes in EPS as determined by forecasting model	25	23	0.3003

Notes: [1] Samples matched by age, gender, firm size, education, and experience.
[2] Z-Statistic is determined by the nonparametric Mann-Whitney U test.
*** = significant at .01 level.
** = significant at .05 level.

Commission issued guidelines, implemented in 1991, regarding earnings forecasts by management. Although management could choose whether or not to issue a forecast, any forecast issued first required a review by a certified public accountant. This attest function could explain, in part, Wu's (1993b) finding that Taiwanese investors pay more attention to managements' forecasts than analysts'. Due to this certification process, selective disclosure should be less prevalent in Taiwan, reducing the analyst's information advantage.

A stated objective of this study is to find indications as to the appropriateness of the Taiwanese analyst forecast as an earnings expectation model for academic research. The findings indicate significant differences in the importance of factors used to forecast earnings between Taiwanese and US analysts of similar age and experience. Part of this difference can be attributed to socioeconomic influences, such as the greater involvement of government in the business community. Part, however, reflects the recent development of the financial analyst profession in Taiwan. Cheung, Li and Wu (1991) indicate that this would affect the depth and breadth of professional analysis when compared to the US.

The limited number of analysts in Taiwan following a firm is also a factor in the choice of an expectation model. For the majority of market studies in which financial analyst forecasts are proxies for investor expectations, it is the consensus (that is, the mean or median of a group of forecasts) that is used. In the US, a large firm might be followed by 20 to 30 analysts. A consensus earnings estimate would, therefore, mitigate the effect of any outliers. This is not the case in Taiwan where firms are generally followed by only one or two analysts.This situation should change with the increased growth and development of the Taiwanese securities market. In the meantime, however, the evidence suggests that statistical models are more appropriate for investor expectation models than analyst forecasts for market studies for Taiwan.

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NOTES

1. For an in-depth discussion of the U.S. buy- and sell-side analyst, see Williams, Moyes, and Park (1996).
2. In his study on the Hong Kong securities market, Dawson (1982) does find, however, that security analysts were able to identify stocks with above average performance. He concludes (p. 20) that "[a]lthough the market is apparently not efficient, it is also not the irrational market some portray it to be."
3. Wu (1993a, p. 57) notes, "Recently, because of technology development in Taiwan, firm analysts and management have used more computer packages or statistical tools to prepare forecasts than before; for example, time series analysis, trend analysis, relative strength and weakness were used."
4. For a review of the literature involving investor expectation models, see Williams, (1995).
5. Two examples of market studies involving D/NICs are Husnan and Theobald (1993) and Oppong (1993).
6. The number of questionnaires mailed in the US was determined after meeting with an official of the organization who provided the mailing list. Based on prior surveys which used the organization's mailing list, a typical response rate was 15%. Therefore, in order to obtain the 300 completed questionnaires needed for testing, 2,000 questionnaires were mailed.
7. A test for non-response bias (Oppenheim, 1966) was made for both groups in which late respondents proxy for nonrespondents. The results indicated no significant differences between early and late respondents.
8. A good news forecast is one which exceeds analysts' expectations of earnings, while a bad news forecast is one which is lower than analysts' expectations.

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The International Journal of Accounting

Organizational Culture and Budget Related Behavior: A Comparative Contingency Study of Three Local Government Organizations

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Key Words: Culture; Financial control systems; Budget related behavior

Abstract: *The study attempts to establish the contingent relationship between culture and budget related behavior. Multiple aspects of culture were investigated including national, corporate, professional, and hierarchical components. The paper is the fourth in a series investigating the relationship in three local government organizations in the United Kingdom, British Canada, and French Canada. This paper hypothesises the influence of each of the sub cultures on budget related behavior. Results indicate that corporate and hierarchical cultures are a major influence, professional cultures are a lesser influence, and that national culture appears to have little or no influence.*

BACKGROUND

The relationship between organizational culture and financial control systems (FCSs) is one of increasing interest (Dent, 1991; Bourn and Ezzamel, 1986; Ferguson and Lapsley, 1988; Birnberg and Snodgrass, 1988; Chow, Kato and Shields, 1994; Broadbent, 1992; Harrison, 1992, 1993; Ueno and Wu, 1993; Chow, Shields and Chan, 1991). This paper is a contribution to this theme of accounting research.

The paper is the fourth in a series based on a study of the relationship in three local government organizations in the UK, British Canada, and French Canada. Previous papers have concentrated on investigating the existence of multiple cultures (Goddard, 1995), the relationship between culture and budget related behavior in one of the organizations (Goddard, 1994) and an interpretive analysis of culture and control in the three organizations (Goddard, 1993). This paper develops the analysis reported in the first two of the above papers and uses contingency theory to understand the relationship between organizational culture and budget related behavior in the three organizations.

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PREVIOUS RESEARCH

Concepts of Culture

There are many definitions of organizational culture in both the functionalist and interpretive paradigms. This paper is informed by the former which views culture as something which can be objectively determined and measured. Within the paradigm organizational theory has been heavily influenced by systems and contingency theory, and organizational culture has been seen as a variable. Smircich (1983) categorises such approaches into those which treat culture as an internal variable, when culture is viewed as something which can be managed and therefore changed by corporate managers (Deal and Kennedy, 1982; Peters and Waterman, 1982; Litwin and Stringer, 1968); and those which treat culture as an external variable which is imported to an organization by its members and cannot be easily changed by corporate managers. The external variable most commonly researched has been that of national culture (Ouchi, 1981; Pascale and Athos, 1981; Hofstede, 1980). Hofstede (1980) established the influence of national culture on organizational culture. He measured national value systems by differences in self concepts of individuals and by differences in implicit models of organizations. Self concepts were measured using the dimensions of individualism vs. collectivism and masculinity vs. femininity. He measured differences in models of organizations by measuring power distance (the extent to which the members of a society accept that power in institutions and organizations is distributed unequally) and uncertainty avoidance (degree to which members feel uncomfortable with uncertainty and ambiguity). These dimensions affect the structuring and functioning of organizations. Any national culture can be plotted on the resulting matrix.

Rather than consider these approaches as mutually exclusive it seems reasonable to view them as emphasising different aspects of organizational culture. These cultural aspects taken together can be seen as constituting the overall organizational culture. Reynolds (1986) has developed a method of analyzing organizational culture which draws upon both the internal and external aspects (see below).

Previous research also suggests that organizational culture is not homogenous. Gregory (1983) suggested that most researchers have emphasised the homogeneity of culture and its cohesive function rather than its divisive potential. She suggests organizations are more accurately viewed as multicultural, comprising multiple groups with different occupational, divisional, ethnic, or other cultures. Kakabadse (1982) also found evidence of multiple cultures. More specifically, he found hierarchical differences in culture of Social Services Departments in local government organizations, using Harrison's (1972) simple cultural typology. He suggested the different managerial focus of each level leads to different cultures. For instance senior managers whose primary objective is strategic development would display a power culture whereas middle managers' objectives are concerned with the need to maintain the departmental organization and would display a role culture. Junior managers' objectives concentrate on getting the job done and therefore display a task culture. Goddard (1995) found clear evidence of multiple cultures in existence in the three organizations reported in this paper. Differences were found between the three organizations (referred to as corporate cultures), between

professional groupings (professional cultures) and some evidence of differences between hierarchical levels (hierarchical cultures).

Budget Related Behavior (BRB)

Budget related behavior refers to those managerial activities, actions, attitudes and interactions among managers and their tasks which occur on a regular basis and which are related to the system of budgetary controls (Williams, et al., 1990).

In this paper, budget related behavior is examined using the behavioral factors identified by Bruns and Waterhouse (1975) and Williams et al (1990). Bruns and Waterhouse (1975) found that budget related behavior could be described using thirteen factors including participation, evaluation by budget, enabling features, limiting features, support, acceptance of methods, and required explanation of variances. Such behavior was found to be contingent upon various aspects of organizational structure such as centralisation, autonomy, and the degree to which activities were structured. They concluded that there must be alternative organizational control strategies in different kinds of organization.

Williams et al (1990) defined budget characteristics in a very similar way in a contingency study of budget related behavior in public sector organizations. Their findings concerning the significant behavioral factors were very similar to those in the private sector study of Bruns and Waterhouse, suggesting that such behavior is similar in both private and public sectors. To facilitate analysis the factors were categorised as (1) measuring and monitoring, (2) participation, (3) formal communication and (4) enabling change. They extended the analysis offered by Bruns and Waterhouse and concluded that there was evidence of support for the contingency notion of fit between budgeting behavior and departmental performance in the context of task interdependency.

However, the correlations between contingent variables and BRB are small even though significant. This suggests other contingent variables may also influence BRB and the research reported here is concerned with investigating the possibility of organizational culture being one such variable.

Organizational Culture and Budget Related Behavior

Several accounting researchers have investigated the relationship between culture, seen as an external variable and aspects of financial control. Many of these studies use Hofstede's dimensions of national cultures (Chow, Kato and Shields 1994, Harrison 1992, Ueno and Wu 1993, Chow, Shields and Chan 1994). The results of these studies have been inconclusive and have only partially established a clear relationship. For instance, Chow, Shields and Chan (1991) found very little evidence for national culture determining preferences for managerial controls. Ueno and Wu (1993) found that the cultural dimension of individualism explained some variation in budgetary practice but the dimension of uncertainty avoidance did not. Harrison (1992, 1993) did find a relationship between the effect of budgetary participation and Hofstede's power distance and individualism dimensions.

However, these approaches have ignored the possibility of the existence of other cultural aspects such as corporate, hierarchical and professional cultures. Goddard (1994) established a significant, complex relationship between organizational culture (using Rey-

nold's methodology), and budget related behavior (using a similar approach to Williams et al 1990) at the level of the individual manager in one of the organizations studied here. The contribution of this paper is to explore the relationship further across three organizations in three 'national' cultural settings using the model described below.

Research Model

A contingency model of the relationship between culture and budget related behavior, based on the above discussion, may be constructed as illustrated in Figure 1. The model hypothesises that culture affects budget related behavior by influencing managers' beliefs and attitudes. Moreover, culture is heterogenous and comprises national, corporate, professional, and hierarchical components. The influence of each of these cultures may be studied by analyzing managers, beliefs and values, within each cultural grouping, and their perceptions of BRB in their workplaces.

The model also incorporates contingent variables such as structure and task dependency which previous contingency studies have established as being correlated with budget related behavior (Bruns and Waterhouse, Williams et al). Careful selection of research sites can ensure these other variables are similar and therefore have little impact on differences in BRB.

RESEARCH SITES

To study the various aspects of organizational culture a relatively large number of managers from each organization is required to achieve some depth of analysis. The number of sites included in the study was therefore kept to a minimum. The non cultural variation between the organizations was kept to a minimum by selecting three organizations of similar size, structure and technology. This was achieved by including three local government organizations in the study, one was in the UK and two were in Canada.

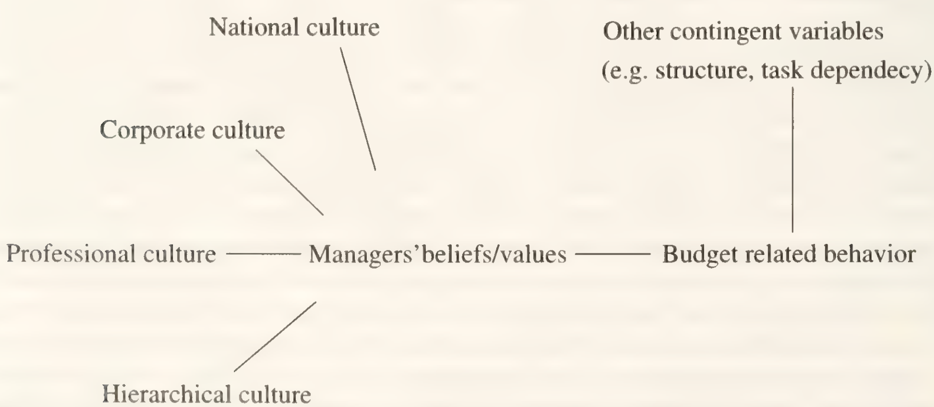

Figure 1. Contingency Model

The Canadian organizations were selected to provide a variation in national cultural settings. This was achieved by selecting on, organization from British Canada and one from French Canada. The cultural differences between British and French Canadian cultures are well established in the literature (Hartz, 1955, 1964; Horowitz, 1966; Forbes, 1987; Wiseman, 1988). These differences emanate from the British and French cultures from which the early settlers came (see below).

The UK organization, Shire, was a large County Council, providing a range of services including education, libraries, social services, highways, planning, and fire, to a population of around 720000. Excluding education and front line social workers (not directly employed by Uptown and Downtown) some 2900 were employed and the revenue budget was approximately £100 million. The British Canadian organization, Downtown, was a City Corporation in Ontario, serving a population of some 300,000 and providing broadly similar services to Shire. The total number of employees was 1700 and its revenue budget was about £100 million, excluding Boards. The French Canadian organization, Uptown, was a City Corporation in Quebec, serving a population of 165000, again with similar services and employing some 1850 staff, and having a revenue budget of about £100 million, excluding police. All three organizations were structured in professional groupings related to service provision.

DEVELOPMENT OF HYPOTHESES

The investigation of the complex relationships between culture and budget related behavior were achieved by testing a series of hypotheses developed from the research model and from previous research already undertaken in the organizations concerned. In order to facilitate the discussion and hypothesis development both culture and BRB are simplified using the following typology.

Culture Typology

Previous research (Goddard, 1995) identified multiple cultures in existence in the organizations studied here. A full discussion of these cultures is provided in Goddard (1995) and a summary of the different corporate, professional, and hierarchical cultures which were found is provided in Figure 2. For ease of reference these are characterized, some-

	Shire	Downtown	Uptown
Corporate	Social/caring	Bureaucratic	Task/business

	Social Servs	High/Plan	Chief Execs/Fire
Professional	Social/caring	Social/caring Bureaucratic	Task

	Senior	Middle	Junior
Hierarchical	Strategic/power	Bureaucratic	Task/social/caring

Figure 2. Summary of Cultures Found in Previous Research

what simply, as socially orientated caring cultures, bureaucratic cultures, task orientated cultures, and strategically oriented power cultures. This typology closely resembles Harrison's (1972) ideologies which are used in this paper to investigate cultures.

BRB Typology

BRB will be referred to in terms of a classification similar to that used by Williams et al (1990) comprising participation, hierarchical control, support for managerial roles, and budgetary practice. These have been derived rather crudely by grouping together variables hypotheses used in the questionnaire (see below) as shown in Table 1.

Hypotheses

The development of the hypotheses below is organized around the four aspects of culture outlined in the research model. The first three hypotheses relate to corporate cultures, the fourth to professional cultures, the fifth to hierarchical cultures, and the sixth to national cultures.

Corporate Culture Hypotheses

Harrison describes organizations with a role orientation, similar to the bureaucratic culture described above, as aspiring to be as rational and orderly as possible with a preoccupation with legality, legitimacy, and responsibility. Such values seem to be entirely consistent with a well structured financial control system which emphasises control. If such a culture guides perceptions, one would expect managers under its influence to respond well to the system.

To test this the first hypothesis is:

H1 Managers working in a bureaucratic culture will perceive high levels of participation, hierarchical control, and support for managerial role and budgetary practice will be time consuming.

Harrison's person oriented culture is similar to the socially oriented caring culture found in the organizations under review (Goddard, 1995). In such cultures authority is discouraged and individuals are expected to influence each other through example, helpfulness, and caring. Management is more consensual, organizational goals are determined by individuals' needs and growth and expansion are not primary considerations. Controlling artifacts like budget systems are unlikely to be well received in such cultures. This culture would seem to be consistent with Hopwood's (1972, 1974) non accounting style where budgets are not seen to be important in the organization. The second hypothesis to test this is therefore:

H2 Managers working in a socially oriented/caring culture will perceive low levels of participation, low levels of hierarchical control, little support for the managerial role and will not find budgetary practice to be time consuming.

In the task oriented culture Harrison suggests that all organizational activity is subordinate to task achievement. If authority, rules, and regulations hinder problem solving they

Table 1. Relationship Between BRB Classification and Underlying Variables

Simplified Classification	*Underlying Variables*
(1) Participation	Participation in • setting budget • explaining variances
(2) Hierarchical control	• Variances required • Budgetary pressure from superiors • Budget manippulation necessary • Budget important for performance evaluation
(3) Suupport for managerial roles	• Enables flexibility and innovation • Useful in managerial role
(4) Budgetary practice	• Time consuming • Treasurer support

are swept away. Perceptions of the budget system will depend very much on how well it enables task achievement and the hypothesis to investigate this is:

H3 Managers in a task oriented culture will perceive high levels of participation, hierarchical control, and support for a managerial role and will find budgetary practice time consuming if the FCS is perceived to assist the achievement of tasks.

Professional Culture Hypothesis

The existence of professional cultures was clearly demonstrated in the previous research but the simple classification of the cultures is difficult. The Chief Executive and Fire Departments were very similar and did resemble a task culture. Social services were a more social and caring culture but Highways displayed a broad mixture of values. For the purposes of this paper the hypothesis will concentrate on the former professions as follows:

H4 The socially oriented caring culture in Social Services will result in perceptions of low levels of participation and hierarchical control, little support for the managerial role and will not find budgetary practice to be time consuming. The task oriented Chief Executive's and Fire Departments will result in different perceptions as outlined in H3.

Hierarchical Culture Hypothesis

As outlined above, Kakabadse found evidence of hierarchical differences in local government and suggested senior managers whose primary objective is strategic development would display a power culture whereas middle managers' objectives are concerned with the need to maintain the departmental organization and would display a role culture. Junior managers' objectives concentrate on getting the job done and therefore display a task culture. In previous studies in the organizations under analysis here, some evidence was found for these hierarchical differences in culture although junior levels were more closely characterised as caring/social cultures. Following on from the first three hypothe-

ses one would therefore expect to find hierarchical differences in budget related behavior. The fifth hypothesis to test is therefore:

H5 Managers at higher levels of the organization will perceive higher levels of participation, hierarchical control and support for managerial role and will find budgetary practice more time consuming than managers at lower levels in the organization.

National Culture Hypothesis

The ideological development of North America has been analysed by Hartz (1955, 1966) and Horowitz (1968) who describe the process as 'extrication from Europe, the atrophy of the future, and the unfolding of the fragment potential'. The process begins with the departure of a group from Europe that represents one phase of its continuing revolution, a fragment of its rich ideological spectrum. Hartz distinguishes three types of fragment: feudal (including French Canada), bourgeois or liberal (including the United States and British Canada), and radical (Forbes, 1987). By feudal Hartz was referring to the collectivist, organic, hierarchical, and cooperative outlook of French Canada, rooted in the ancien regime of pre enlightenment France, from which the early Quebec settlers came. This contrasts with the liberal society's theoretical stress on the primacy of primordial, competing, atomistic free individuals as in the case of the USA and British Canada, rooted in the nineteenth century British liberalism from which the Ontario settlers came (Wiseman 1988). The unfolding of these ideological or cultural fragments continues to have significance today. This was evident during the empirical stage of this research when negotiations resulted in the failure to agree on a new Canadian constitution at Meech Lake. This failure had cultural roots, with an emphasis on a British Canada/French Canada split. It is clear that two distinct national cultures exist in Canada, rooted in a melee of British, US, and French cultures.

Using his analysis of self concept Hofstede (1980) found that Britain, Canada, and the US were grouped together as individualistic/masculine cultures. No attempt was made to disaggregate Canadian culture and it most likely, therefore, represents an averaging of the sub cultures. France was an individualistic (though less so) / feminine culture. One would expect therefore the cultures of Shire and Downtown to be similar and in contrast to Uptown. Values such as competitiveness, assertiveness, egoism, self interest and self actualisation should dominate; individuals are supposed to look after themselves and their immediate families and there is a preference for achievement and material success. Using Hofstede's analysis, Uptown culture should reflect feminine values such as modesty, caring for the weak and the quality of life. On Hofstede's dimensions of organizational models, Britain was characterised by small power distance and weak uncertainty avoidance where individuals perceive organizations as ad hocracies. France was quite the opposite with organizations seen as a hierarchical bureaucracy. The US and Canada were in between these two extremes. In terms of the classifications used above Shire should be identifiable as a task culture and Uptown as a mixture of a socially oriented caring culture and a bureaucratic culture. Consequently, if Hofstede's classification holds true the following hypothesis can be constructed:

H6 There will be a clear difference between the perceptions of managers to the budget system in Shire/Downtown and those in Uptown. Shire/Downtown perceptions will be

those hypothesized for a task culture (H2) and those in Uptown will be those hypothesised for socially oriented and bureaucratic cultures (H1 and H3).

RESEARCH METHODS

The principal method of data collection was by way of a two part questionnaire. The first part was concerned with respondents' perceptions of workplace culture and the second with the workplace budget related behavior and satisfaction.

The part of the questionnaire concerned with culture was developed from Reynolds (1986) who based his questionnaire on aspects of culture discussed by Ansoff (1979), Deal and Kennedy (1982), Harrison (1972), Hofstede (1980),and Peters and Waterman (1982). Reynolds identified 14 dimensions of culture such as 'external vs. internal emphasis, task vs. social focus etc.'. Two additional dimensions were added in this study to reflect the local government environment. The first asked whether professional or managerial competence dominated in the workplace and the second whether councillors (elected members) or officers (salaried managers) dominated. These 16 dimensions were measured directly with five item responses forming a continuum and respondents were asked to circle the item which most closely described their workplace. For instance one dimension is concerned with perceived risk attitudes, and respondents were asked to select one of the following statements as most accurately describing this aspect of their workplace.

1. No risk of any kind is ever taken;
2. There is a willingness to accept a minimal risk;
3. Familiar and predictable risks are acceptable;
4. There is some acceptance of unfamiliar risk; and
5. Any kind of risk is readily accepted.

These 16 dimensions are concerned principally with perceived management practices.

A second section of the questionnaire measures the perceived basis for commitment, or motivations to work, of colleagues in the workplace. Reynolds' original motives included financial rewards, prestige and respect, personal development, work conditions, opportunity to change and improve things, social aspects and challenging work. To these were added commitment to public service, commitment to caring, being a manager and taking a business like approach, to reflect the issues in the contemporary local government environment. Respondents were asked to indicate the relative importance of each of the motivators to their colleagues, on a five point, Likert scale. These dimensions might be considered as perceived beliefs of colleagues and are closely associated with organizational climate, another aspect of organizational culture.

The final part of the questionnaire was designed to determine budget related behavior. The original full questionnaire was developed by Fertakis (1967) and modified by Swieringa (1975) and Merchant (1981, 1984), to comprise 44 statements concerning budget related activities. Bruns and Waterhouse (1975) found 13 significant factors underlying the activities and 10 of these were replicated by Williams, Macintosh and Moore (1990).

Table 2. Means Responses on Principal Significant Cultural Dimensions

Dimension		*Corporate*				*Profession*			*Hierarchy*	
	Shire	*Downtown*	*Uptown*	*CE*	*Fire*	*High*	*Soc. Serv.*	*Senior*	*Middle*	*Junior*
Cultural dimensions:										
<u>Management Practices</u>										
Internal/external focus	2.46	2.76	2.34	2.69	2.58	2.27	2.60	2.36	2.61	2.44
Task/people	2.42	2.53	2.34	2.12	2.41	2.34	2.59	2.27	2.40	2.49
Risk	3.38	3.06	2.68	3.50	3.25	3.20	3.41	3.36	3.26	3.17
Homogeneity	3.54	3.56	3.44	3.69	3.25	3.41	3.62	3.59	3.43	3.52
Rewards	2.23	2.35	2.28	2.06	1.92	2.16	2.41	2.23	2.17	2.35
Decisions	2.78	2.51	2.44	2.56	2.58	2.50	2.86	2.36	2.62	2.79
Centralisation	3.17	2.71	2.84	3.19	3.08	3.09	3.08	3.13	2.99	3.05
Planning	3.68	3.78	3.66	3.50	3.58	3.86	3.61	3.82	3.72	3.65
Change	3.71	3.47	3.62	3.75	3.58	3.70	3.65	3.91	3.72	3.55
Cooperation	2.14	1.96	2.37	2.12	2.25	2.00	2.16	2.32	2.09	2.14
Complexity	2.22	2.22	1.91	2.12	2.08	2.09	2.23	1.91	2.11	2.28
Formality	2.18	2.58	3.25	2.50	2.83	2.09	2.38	2.45	2.53	2.31
Loyalty	3.22	3.42	3.31	3.25	2.92	3.29	3.31	3.09	3.22	3.36
Knowledge	4.22	4.42	4.63	4.19	4.58	4.50	4.27	4.41	4.40	4.23
Professionalism	2.67	3.02	2.75	3.06	2.50	2.80	2.76	2.68	2.78	2.75
Politics	3.87	3.64	3.19	3.56	4.08	3.70	3.86	3.59	3.58	3.86
<u>Motivations of colleagues:</u>										
Public service	3.83	3.96	3.34	3.94	4.08	3.89	3.71	3.95	3.79	3.75
Caring	3.87	3.48	2.78	2.82	3.67	3.27	4.29	3.18	3.39	3.92
Challenge	3.59	3.69	3.66	4.06	4.00	3.54	3.53	3.86	3.68	3.52
Social	2.70	3.07	2.81	2.56	2.67	2.41	3.00	2.68	2.81	2.79
Change	3.70	3.42	3.37	3.50	3.58	3.66	3.66	3.59	3.56	3.63
Conditions	3.10	3.29	3.72	2.94	3.08	3.18	3.16	3.14	3.19	3.26
Growth	3.60	3.62	3.25	3.31	3.67	3.52	3.64	3.60	3.62	3.25
Prestige	2.99	3.24	3.34	3.06	3.58	3.15	3.97	3.45	3.16	2.97
Financial	3.10	3.36	3.63	3.31	3.25	3.48	2.93	3.23	3.28	3.18
Managerial	3.34	3.53	3.28	3.87	3.83	3.27	3.36	3.68	3.34	3.34
Business	3.39	3.51	3.69	3.62	3.42	3.59	3.26	3.72	3.52	3.35

Table 3. Means Responses on Perceived Actual Budget Related Behavior

		Corporate				Profession			Hierarchy	
	Shire	*Downtown*	*Uptown*	*CE*	*Fire*	*High*	*Soc. Serv.*	*Senior*	*Middle*	*Junior*
Cultural Category	Social	Bureau.	Task	Task	Task	Social Bureau	Social	Power	Bureau.	Task/soc.
Participation:										
Budget setting	2.18	4.20	3.79	3.88	3.50	3.27	2.03	3.83	3.33	2.26
Explaining variances	2.40	3.71	3.64	3.82	3.14	2.94	2.35	3.38	3.39	2.34
Hierarchical Control:										
Explanations required	2.53	3.92	3.72	3.59	3.14	3.02	2.67	3.42	3.38	2.60
Superior pressure exists	2.66	3.24	2.56	2.71	3.14	2.82	2.72	2.67	2.84	2.72
Budget manipulation occurs	2.70	3.37	3.10	3.18	2.64	2.92	2.81	3.45	3.12	2.61
Important for evaluation	2.34	2.84	2.85	2.59	2.64	2.63	2.38	2.96	2.73	2.27
Support Managerial Role:										
Flexibility/innovation	2.15	2.73	2.72	2.88	2.50	2.47	2.03	2.38	2.73	2.05
Useful for management	2.73	3.63	3.77	3.18	3.21	3.10	2.75	3.46	3.50	2.67
Budgetary Practice:										
Time consuming	2.28	2.78	2.74	2.53	2.43	2.51	2.37	2.67	2.56	2.32
Treasurer support	2.13	3.08	3.33	3.24	2.29	2.47	2.16	3.38	2.89	2.05

The questionnaire used in this study comprised ten questions developed from these factors. Respondents were asked to signify their perceptions of existing budgetary behavior in their workplaces by indicating on a five point Likert scale how well a statement described the budgeting system.

General information was also collected concerning gender, age, educational attainment, actual and expected length of stay in the organization. The questionnaire was piloted to 25 managers to ensure comprehension and a few minor changes made as a result.

ANALYSIS OF QUESTIONNAIRE RESPONSES

The results of the cultural part of the questionnaire are fully reported and discussed in Goddard (1995). The mean responses are provided in Table 2. and a summary of the consequent cultural categorization is provided above in the discussion on hypotheses.

The mean responses to the BRB part of the questionnaire are provided in Table 3. The probabilities that a difference in these means exists between cultural groupings is investigated using a one way analysis of variance for each BRB variable. The results are reported in Table 4. The one way analysis of variance establishes whether a significant difference exists between groups but does not pinpoint where the differences are. The multiple com-

Table 4. Oneway Analysis of Variances - Probablilites of no differences between group means - Scheffe test groupings

BRB DIMENSION	*CULTURAL GROUPING*			*SCHEFFE GROUPINGS*					
	Orgn	*Prof*	*Hier*	*Orgn*		*Prof*		*Hier*	
Participation:									
Budget setting	0.0000	0.0000	0.0000	S	U,D	CE,F	SS	S,M	J
Explaining variances	0.0000	0.0000	0.0000	S	U,D	CE	SS	S.M	J
Hierarchical Control:									
Explanations required	0.0000	0.0203	0.0000	S	U,D			S,M	J
Superior pressure exists	0.0070	-	-	S	U,D	CE	SS	-	
Budget manipulation occurs	0.0045	-	0.0013	S	D	-		S,M	J
Important for evaluation	0.0116	-	0.0045	S	U,D	-		S,M	J
						-			
Support Managerial Role:									
Flexibility/innovation	0.0004	0.0061	0.0000	S	U,D			S,M	J
Useful for management	0.0000	-	0.0000	S	U,D	CE	SS	S,M	J
						-			
Budgetary Practice:									
Time consuming	0.0008	-	-	S	D			-	
Treasurer support	0.0000	0.0172	0.0000	S	U,D	CE	SS	S,M	J

Notes: Key to Scheffe Test:

S Shire	CE Chief Exec	S Senior Managers
U Uptown	F Fire	M Middle Managers
D Downtown	SS Social Servs.	J Junior Managers

parison procedure, the Scheffe test, provides this information. It is a conservative test for pairwise comparison of means. The results in Table 4 show those cultural groupings that are significantly different at the 0.05 level.

The results are discussed in terms of the cultures identified in the research model.

Corporate Culture and BRB

The most striking of all differences occur between the three corporate cultures. The one-way analysis of variance indicates significant differences on all BRB variables. It is evident from an analysis of the means, and confirmed by the Scheffe Test, that the responses from Shire differ significantly from Downtown and Uptown. Downtown's corporate culture was characterized as a bureaucratic culture and the mean BRB responses of Downtown managers (Table 3) indicate that they perceive high levels of participation, high levels of hierarchical control and support for managerial role and budgetary practice is time consuming. This is in accordance with H1.

Shire' culture was categorised as a social/caring culture akin to that hypothesised in H2. The mean BRB responses of Shire managers (Table 3) indicate that they perceive low levels of participation, low levels of hierarchical control, little support for the managerial role and they find budgetary practice not to be time consuming. This lends support to H2.

Uptown's corporate culture was characterized as task/business orientated. Mean BRB responses from Uptown (Table 3) indicate managers perceive relatively high levels of participation, moderate levels of hierarchical control, moderately high levels of support for managerial role and find budgetary practice time consuming.

In order to examine whether the FCS was perceived to assist the achievement of tasks, managers were asked to indicate what they thought the BRB should be in their workplace. Table 5. summarizes the comparison of existing to expected BRB for the cultures investigated. The table was constructed by subtracting individual responses of the actual BRB from the expected BRB and then calculating the mean for each grouping. A positive response indicates the existing BRB falls short of expectations and a negative response that it exceeds expectations. The scale of differences in means runs from -4 to +4.

This indicates Uptown managers generally perceive that the budgeting system in their workplace is reasonably close to their ideal, (although the extent of participation and flexibility do fall short). This is most evident in comparison to Shire where the actual BRB falls well short of expectations on all variables. This can be reasonably interpreted as indicating uptown's managers perceive the system to be generally supportive to them. This lends some support to H3 but it is not conclusive.

Profession and BRB

It is evident from Table 3 that the mean BRB responses for Social Service's managers is different from the other professional groupings. Table 4 provides statistical proof of a significant difference in responses for five of the BRB dimensions. The Scheffe test identifies two groupings with Social Services significantly different from the other professions. There is a particularly strong difference in the area of participation.

Table 5. Differences in Means Between Ideal BRB and Actual BRB

Budget Related Behavior	*Corporate*				*Profession*			*Hierarchy*		
	Shire	*Down-town*	*Uptown*	*CE*	*Fire*	*High*	*Soc. Serv.*	*Senior*	*Middle*	*Junior*
Cultural Category	Social	Bureau.	Task	Task	Task	Social Bureau	Social	Power	Bureau.	Task/soc.
Participation:										
Budget setting	2.14	0.18	0.62	0.75	0.67	1.02	2.39	0.65	0.99	2.07
Explaining variances	1.75	0.38	0.56	0.44	1.20	1.02	1.94	0.91	0.79	1.76
Hierarchical Control:										
Explanations required	1.52	0.24	0.51	0.69	0.79	0.84	1.54	0.91	0.66	1.48
Superior pressure exists	0.79	0.12	0.10	0.37	0.07	0.31	0.85	0.39	0.40	0.69
Budget manipulation occurs	0.96	0.10	0.05	0.31	1.00	0.61	0.79	0.13	0.42	0.87
Important for evaluation	1.56	0.78	0.78	1.56	1.53	1.10	1.45	0.87	0.92	1.55
Support Managerial Role:										
Flexibility/innovation	2.00	1.28	1.18	1.25	0.87	1.63	2.26	1.30	1.35	2.10
Useful for management	1.57	0.65	0.46	1.19	1.13	1.04	1.61	0.83	0.80	1.60
Budgetary Practice:										
Time consuming	1.10	-0.08	0.05	0.44	0.93	0.57	1.08	0.39	0.52	0.91
Treasurer support	1.29	0.75	0.07	-0.06	1.14	0.82	1.54	0.30	0.42	1.54

Managers in the socially oriented caring culture of Social Services perceive low levels of participation and hierarchical control, little support for the managerial role and do not find budgetary practice to be time consuming.

Managers in the task oriented Chief Executive's and Fire Departments perceive high levels of participation, moderately high levels of hierarchical control and support for their managerial role. There was little difference in perceptions as to how time consuming the FCS was. A comparison between the two task cultures is also revealing. It can be seen that in most cases CE managers have higher responses than Fire. An analysis of the difference between actual and expected practice reveals a larger gap in Fire on most of these dimensions. This may indicate that CE managers perceive the FCS to be a more useful in achieving tasks than Fire mangers (as in H3). The responses generally lend support to H4 and H3 but again it is inconclusive.

Hierarchy and BRB

For almost every dimension of BRB in Table 3. there is a gradation of response with the highest being from senior managers and the lowest being junior managers. It is evident that managers at higher levels of the organization perceive higher levels of participation, hierarchical control and support for managerial role and find budgetary practice more time consuming than managers at lower levels. There is a similarity in response between senior and middle managers with a clear difference between these and junior managers. This difference is statistically significant on all but two of the BRB dimensions in Table 4. Harrison suggests that power and bureaucratic cultures are similar in terms of placing a strong emphasis on the need for internal integration and coordination of effort, both attributes associated with budgeting systems. Moreover, he suggests that power and bureaucratic cultures are poor at engendering commitment at lower levels of the organization. These differences in culture seem to reflected in the perceived BRB in this study where senior and middle managers perceive high levels of BRB and junior managers perceive significantly lower levels. Harrison also suggests that a dominant feature of power cultures is that those who are in power strive to maintain control over subordinates. There is clear evidence of this in the perceived BRB with respect to hierarchical control. These results give quite strong support to H5.

National Culture and BRB

The differences in mean BRB responses with respect to 'national' cultures shows a statistical difference between Canadian and UK perceived BRB. There is a similarity between Downtown and Uptown responses and these are different from Shire. This is contrary to expected cultural groupings in H6, which paired Shire with Downtown. Moreover the responses for Downtown are consistent with a bureaucratic culture, those for Uptown consistent with a task culture and those for Shire consistent with a social/caring culture. Only the Downtown responses could be interpreted as consistent with the hypotheses developed from Hofstede's cultural analysis. There is little support, therefore, for H6.

SUMMARY AND CONCLUSIONS

Previous research (Goddard, 1993, 1994, 1995) has established the existence of multiple cultures within the organizations studied and also established that culture was statistically correlated with BRB in one of the organizations. The research reported in this paper found general support for the hypothesis that BRB is related to aspects of culture across three organizations and across different cultural settings. Furthermore, it establishes that the most significant cultural influences on BRB appear to be the corporate and hierarchical cultures and, to a lesser extent, professional culture. These influences appear to be far stronger than national cultures, as defined by Hofstede.

However, one explanation for the lack of influence of national culture could lie in the premise that the French cultural fragment was still influential in French Canada. The influence of liberalism emanating from the US may now be much stronger and this could explain the relative closeness of the Canadian organizations. Indeed, encroaching globalization may well be eroding cultural differences, particularly in the developed world. Hofstede's findings may simply be a product of the time of his research and no longer applicable. Further research is needed to pursue these questions before it is concluded that national cultures have little influence on organizational cultures and BRB. It would be particularly interesting to extend the research reported in this paper to French and US local government organizations in the first instance. This could then be extended to other European countries and to other continents and to the less developed world.

The classification of culture using the adapted version of Harrison's ideologies was useful. In the case of social/caring, bureaucratic and power cultures it was reasonably accurate in predicting BRB. In the case of task culture the prediction was less convincing. Allowance has to be made to the rather crude nature of this classification but its main purpose was to facilitate discussion rather than act as a predictor of BRB.

The results of the series of studies have both academic and practical implications. The study reinforces the importance of culture as a contextual variable in the study of management accounting practice but also establishes its complexity. There are clearly different cultural influences on managerial behavior within organizations as well as influences from outside. More research is needed into these internal differences as they appear to be more influential than national culture. It is also evident that the complexity of cultural setting results in great difficulty in understanding the operation of financial control systems in practice. A manager working in a social caring professional culture, at a senior level, in a bureaucratic corporate culture will be exposed to many contrasting influences and the resulting BRB is likely to be very unpredictable. This leads to great difficulty in using statistical methods to disentangle the complexity. A relatively simple statistical approach was taken in this paper as previous research had indicated that a more complex analysis of correlations tends to reduce the data to such an extent that drawing meaningful conclusions becomes difficult.

The study begs many questions such as how do the cultures develop, are they influenced by financial control systems, does BRB change as cultures evolve, what is the role of the accountant in this cultural melee? There is a strong case for more qualitative research to address such questions and to aid the questionnaire based approach reported here. There is also a strong case for more processional studies into the development of cultures and the

interrelationship with financial control systems as the approach taken here was inevitably static.

The most striking differences in BRB between different cultures were found in the perceived level of participation. Budgetary participation has received a lot of attention in the contingency theory of management literature (e.g., Becker and Green, 1962; Otley, 1978; Hirst, 1981; Brownell, 1982; Brownell and McInnes, 1986). The conclusions of these studies indicate that there are many variables influencing the extent of participation that any organization should allow. It is evident from this study that culture is an important influence on participation and that perhaps perceived participation is as important as actual levels of participation.

On a more practical level the study indicates the importance of 'cultural fit' in the design and operation of financial control systems. For instance, the imposition of a highly centralized and formalized system in a social caring culture, such as a Social Services Department, is unlikely to be successful. The existence of multiple cultures in large organizations may indicate the need for a much more flexible approach to the design of systems which can be moulded to these different cultures.

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International Accounting Education: Insights from Academicians and Practitioners

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Key Words: International accounting education and practice, Accounting curricula, Changes in accounting education, Free trade agreements

Abstract: *This study surveyed a large sample of practitioners (CFOs and managing partners of CPA firms) and academicians (deans, chairs, and faculty at business schools in the United States) to obtain expert opinions regarding demand, challenges, benefits, coverage, and delivery of international accounting education. The results indicate that: (1) demand for international accounting practice and education has grown and will continue to do so; (2) both academicians and practitioners agreed that international business and accounting should be integrated into business and accounting curricula either through a separate course or infusion into existing accounting and auditing courses; and (3) although the relative importance of international accounting topics varied between practitioners and academics, there was a consensus as to importance of 15 topics of international accounting. In light of the perceived importance of global accounting education, insights and views of both academicians and accounting practitioners presented in this paper should be useful to many business schools planning to internationalize their business and accounting programs as well as those universities updating existing international accounting courses.*

INTRODUCTION

The globalization of economies, businesses and capital markets, combined with the free trade agreements of NAFTA and GATT and with European Unification, have provided great impetus for expanding international accounting education and practices. Especially, a new General Agreement on Trade in Services (GATS) has now provided a set of guidelines to promote internationalization of accounting education and practice. A sufficient knowledge of international business and accounting is needed to understand financial

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reporting of multinational corporations (MNCs) in an increasingly global business environment. Business schools in the United States and abroad are responding to the needs of a dynamic and constantly evolving global business environment by reexamining the content of their curricula for delivery of an adequate international accounting education.

According to Johnston and Edelstein (1993, p. 2), "Globalization is here to stay, and its pace in the foreseeable future will only accelerate. Increasingly, the expansion of the international dimension of higher education is not so much an option as a responsibility." Global thinking and knowledge of international accounting are essential for preparing accounting students for the new challenges awaiting them. Arthur R. Wyatt (1991, p. 102), past president of the American Accounting Association (AAA) stated that "accounting academic programs require that the international arena receive immediate and substantial consideration."

Furthermore, the American Assembly of Collegiate Schools of Business (AACSB) (1994, p. 191) has added an "international context" accreditation standard to encourage business schools to address globalization in their curricula. Accordingly, the primary purposes of this study are to: (1) re-examine international accounting practice and education by obtaining expert opinions regarding international accounting education and; (2) to determine what if any changes of sentiment have occurred since the increased focus on globalization due to NAFTA, GATT, and European Union. This study compares current views of both academicians and practitioners in determining the future direction and role of international accounting education. The views and insights on international accounting education provided by the responding academicians and practitioners to our questionnaire will be helpful to business schools as they move toward increased globalization of their business and accounting curricula, or update existing international accounting courses.

MOTIVATION FOR THE RESEARCH

The past decade is characterized by a period of intensive examination of the quality and content of accounting curricula. A number of organizations, committees, and commissions (AAA, 1986; AECC, 1990; AICPA, 1992; IFAC, 1994) have addressed the global challenges to accounting education. The emergence of global economies and markets has underscored the importance of international accounting education and practice. Recent academic studies (e.g., Stout and Schweikart, 1989; Conover et al., 1994; Tondkar et al., 1994) provide excellent detailed reviews of the literature on international accounting education over the past two decades. These and other studies (see Mintz, 1980; Agami, 1983; and Sherman, 1987) have provided evidence of constantly changing opinions of international accounting from both academicians and practitioners as to the importance, demand, and method of delivering international accounting education.

Since all these studies showed that international accounting education was evolving, the literature corroborates the need for a reexamination of the content and delivery of international accounting education in light of new initiatives in globalization of business, dynamic changes in the world, and lack of a large scale study on international accounting issues since that of Stout and Schweikart (1989).

The view of academicians on the growing demand for international accounting education is also shared by accounting practitioners. The American Institute of Certified Public

Accountants (AICPA) (1992, p. 16) stated that "the international aspects of accounting should be addressed throughout the accounting portion of the curriculum. As for the various business disciplines, an understanding of the impact of multinational business activity on accounting and on CPAs is necessary." The Education Committee of the International Federation of Accountants (IFAC, 1994), suggested a "learning to learn" approach for teaching international accounting education for the year 2000 and beyond.

New insights from practitioners and academicians should be useful as many business schools move further toward globalization of their business and accounting curricula. Global competition, cross-border business, and free-trade agreements have encouraged schools, such as the University of South Carolina's School of Business Administration, to establish programs in "Faculty Development in International Business (FDIB, 1993)." Johnston and Edelstein (1993) provide profiles in international education for 15 institutions in the United States that have already initiated and implemented international and interdisciplinary programs (most of these schools provided input to this study).[1] These programs are intended to promote globalization and international dimensions by developing professional knowledge and skills in international business and accounting.

A number of studies (e.g., Dascher et. al., 1973; Burns, 1974; Mintz, 1980; Agami, 1983; Sherman, 1987) have examined international accounting education and its integration into the accounting curriculum.

One of the most recent studies on international accounting, conducted by Conover et al. (1994), compared the topical coverage in international accounting courses by examining the content of 62 international accounting course syllabi and what Chief Financial Officers (CFOs) felt should be taught from a sample of responses from 132 CFOs of MNCs. They found agreement between what was being taught and what was important to CFOs. Another study by Stout and Schweikart (1989) also included some topical areas and various international accounting coverage issues. They found that the preferred delivery method was a separate international accounting course, although most of their respondents did not use that approach.

Our study differs from, those of Conover et al. (1994) and Stout and Schweikart (1989) in several ways. First, our study sheds light on the increasing importance of international accounting in the academic and business communities by presenting new evidence from a large sample of the 222 universities in the U.S., including most of the major institutions, and another sample of both CFOs and partners at major industrial and accounting firms regarding the emphasis on global issues and international accounting education and practice. Second, we examine the most preferred method of integrating international business and accounting into the curriculum. Third, we provide new evidence regarding the perceived benefits of, and obstacles to, offering international accounting courses. In an era of ever-increasing globalization, this information should be beneficial to business schools planning to offer such courses. Fourth, we compare the viewpoints of academicians and practitioners on globalization of both business and accounting curricula. Our study provides new evidence regarding what academic accounting faculty, administrators, and accounting practitioners feel should be taught in international accounting courses based on the perceived present needs of businesses rather than what has traditionally been dictated by available teaching materials and possibly outdated syllabi. Fifth, our study was much broader than the other two, (222 responding universities) and the useable response ratio was more than double than the Conover et al. (1994) study. This suggests both greater

interest in international accounting and stronger support for the findings of our study. Finally, by analyzing the opinions uniformly obtained from both academicians and accounting practitioners our results not only reflect the new interest in international accounting and ever-changing priorities in the key international issues and topics, but also provide information for setting the future direction and role of international accounting education and practice. Our results support and validate the attempts made by accounting and business programs in the United States to internationalize rapidly both business and accounting curricula.

METHOD

This study used a mail survey of both accounting academicians and practitioners. We selected two-hundred fifty business schools that met the following criteria: (1) listed in the 1995 Hasselback's *Accounting Faculty Directory*; (2) located in the United States; and (3) had designated at least one faculty teaching and/or research interest in international accounting. From each individual business school we selected two administrators (a dean and an accounting department chair) and two faculty designated as teaching international and/or financial accounting. The questionnaire was mailed to 1,000 academicians throughout the United States. The questionnaire was also sent to a random sample of 250 CFOs of MNCs, and a random sample of 250 managing partners of Big Six and other national public accounting firms. To maximize the response ratio, each survey mailed was accompanied by a cover letter; (stating the survey objectives; assuring confidentiality of the responses; agreeing to share the findings; giving the approximate time needed to complete the questionnaire) and a pre-addressed postage-paid return envelope.

The five-section questionnaire was pretested, revised, and then mailed to the subjects (copies of two versions of the questionnaire, modified appropriately for the respective groups, sent to practitioners and academicians are available from the authors).[2] The first section of the questionnaire asked respondents of their perceptions of demand for international business and accounting education. The second section dealt with the current and future methods of delivery of international business and accounting education. The third section sought respondents' perceptions regarding benefits, support, and obstacles of international education coverage. The fourth section dealt with respondents' perceptions of the degree of importance they place on a variety of topics related to international accounting education. The selected topics were compiled from an extensive review of the literature on international accounting (from international accounting textbooks and journal articles), and were ranked in importance on a five-point Likert scale ranging from "very important" to "unimportant." The last section provided background and demographic information used for classification purposes.

Three hundred thirty-four usable responses were returned from academicians from 222 universities, providing a response rate of over 33 percent. Sixteen percent of the academic respondents were deans, 36 percent chairpersons, and the remaining 42 percent were faculty. Usable questionnaires were also obtained from 155 practitioners, resulting in a response rate of approximately 31 percent. About 58 percent of practitioner respondents were CFOs while the remaining 42 percent were managing partners.[3] Hartley's F-test was used to test for violations of the homogeneity of variance assumption. The chi-square test

of independence was used to test for differences in responses involving categorical dependent variables, and the Kruskal-Wallis non-parametric analysis of variance was used to examine differences in responses in the ranked data.

RESULTS

Results of the study are presented in the following three sections: (1) relevance of international education; (2) curriculum development of international accounting and (3) curriculum content of international accounting.

Relevance of International Education

Results from our analysis of the relevance and demand for international accounting are presented in Table 1. The majority of the respondents (more than 83 percent of both academicians and practitioners) indicate that internationalization and global thinking over the past decade have increased. Only 2.6 percent of the responding practitioners, and less than 1 percent of academicians, felt that such demand had decreased. Approximately 15 percent of both groups of respondents indicated that internationalization and global thinking had remained static during the past decade. The differences in responses for both groups are not statistically significant. This shows that both groups of respondents agree that globalization has been prominent in the international financial community. Dascher et al. (1973) found evidence of lack of interest by firms (practitioners) as well as educators (academicians) for students having some background in international accounting. While most previous studies have commented on the "importance" of international accounting, none of them has addressed the degree of interest and demand for international accounting. Our results reveal that interest in international accounting and global thinking has substantially increased between both practitioners and academicians. This suggests that future accounting students will be expected to receive more international education as a part of their formal academic training. While these results are consistent with those of Stout and Sch-

Table 1. Relevance of International Education

	Academicians		*Practitioners*	
	No.	*%*	*No.*	*%*
Panel A: Internationalization and Global Thinking During the Past Decade Has:				
Increased	279	83.3	129	83.2
Decreased	2	.6	4	2.6
Remained the Same	49	14.6	22	14.2
No Response	5	1.5	--	--
Panel B: Future Demand and Interest in International Accounting Will:				
Increase	257	76.7	150	96.8**
Decrease	4	1.2	1	.6
Remain the Same	69	20.6	4	2.6
No Response	5	1.5	--	--

Note: **Significant at .01

weikart (1989), which reveal that international business activity is expected to expand in the future, there were a number of differences between our studies. These findings are especially in stark contrast with those of Dascher et al. (1973), who concluded that future demand and interest in international accounting would remain the same with a slight chance of an increase in such interest.

When asked as to the future demand and interest in international accounting, 76.7 percent of academicians responded that this would increase, 1.2 percent indicated a decrease, while 20.6 percent reported that future demand in international accounting would not change. Most responding practitioners (96.8 percent) reported that they expected an increase in demand and interest in international accounting in the future. Differences in responses on the future demand and interest in international accounting between the two groups of respondents are statistically significant at .01 level of significance. This suggests that, to meet the demand for employees with some degree of international training, the practitioners' and future employers' expectations of greater demand and interest in international accounting will contribute to the growth of more international business and international accounting programs.

Given the increased demand for international accounting, accounting programs should strongly advocate the globalization of the accounting curriculum. We asked numerous questions on the importance of international accounting education. Responses were ranked on a five-point Likert scale, with "5" indicating "strongly agree" and "1" representing "strongly disagree." The results (presented in Table 2) reveal that both groups of the respondents agreed that an international accounting course should be included in the accounting curriculum with mean responses of 3.543 and 3.981 for academicians and practitioners, respectively.

Current initiatives on the global economy and the growth in cross-border financing are encouraging the global financial community and accounting profession to harmonize and globalize accounting standards at both the national and international levels. The Financial Accounting Standards Board (FASB) and the Securities Exchange Commission (SEC) are also considering accepting International Accounting Standards (IAS) for global financial reporting (Wyatt and Yospe, 1993). We initially asked the respondents

Table 2. Perceived Importance of International Accounting Education

	Academicians		*Practitioners*	
	Mean	*Std. Dev.*	*Mean*	*Std. Dev.*
A. International accounting course should be incorporated into accounting curriculum	3.543	1.110	3.981	.8714
B. The world is ready for a single set of International Accounting Standards	3.134	1.125	3.045	1.335**
C. International Accounting Standards (IASs)should be accepted as global generally accepted accounting principles	2.522	1.097	2.981	1.170**
D. IASs should be accepted for cross-border securities offerings and global financial reporting in the future	3.042	1.223	3.368	1.111

Notes: *Significant at .05
**Significant at .01

if the world is ready for a single set of IAS. Academicians disagreed, while practitioners were neutral as to IAS with mean responses of 2.134 and 3.045, respectively. This suggests that practitioners are more likely to be aware of, or sensitive to, the difficulties presented by inconsistent global accounting standards. This result was statistically significant at the .01 level. The respondents disagreed (mean responses of 2.522 for academicians and 2.981 for practitioners) that IAS should be generally accepted as global accounting principles.

Practitioners' responses were statistically significant and more favorably disposed toward IAS as generally accepted global accounting principles than academicians. Surprisingly, deans' responses did not differ from those of both subgroups of practitioners, but did differ from those of faculty and chairpersons. This may be attributable to deans functioning more like business executives than faculty and favoring more uniformity. However, the respondents are almost neutral in their opinions (mean responses of 3.042 for academicians and 3.368 for practitioners) that IAS should be accepted for cross-border securities offerings and global financial reporting in the future. These results suggest that while American academicians and practitioners feel the world is not ready for a single set of IAS due to differences in culture, language, political, legal, and social environments, harmonization of IAS may be a possibility in the future. This move toward harmonization of IAS, coupled with trade liberalization agreements (GATT, NAFTA), has further augmented the growing demand for international accounting practice and education. Especially, GATS has promoted globalization of the accounting profession by: (1) mitigating government imposed obstacles to trade in accounting education and practice; (2) encouraging worldwide cooperative efforts to internationalize

Table 3: Perceived Benefits of and Support for International Accounting Education

	Academicians		*Practitioners*		
	Mean	Std. Dev.	Mean	Std. Dev.	Chi-Square
Panel A: Benefits of International Accounting Education:					
A. Provide global thinking	4.0239	.9153	3.9548	.8554	1.3657
B. Make students more desirable in the market	3.5015	.9754	3.6258	.8690	1.0783
C. Prepare students to contribute in global economy	3.8537	.9251	3.7548	.9421	1.3068
D. Meet accreditation education requirements (AACSB)	3.3015	1.0646	2.8323	1.1038	22.7881**
	Academicians		*Practitioners*		
Panel B: Support for Promoting International Accounting Education:					
	No.	*%*	*No.*	*%*	
A. Financial and Educational Support	232	69.3	29	18.7	
B. Emphasize recruiting students with international accounting knowledge	46	29.7			
C. Other	---	---	4	2.6	
D. Both A & B	—	—	49	31.6	
E. Would not support	103	30.7	27	17.4	

Note: **Significant at .01

the accounting profession; and (3) providing a new set of guidelines to foster globalization of accounting education and practice.

Another important element of the international accounting debate centers on the perceived benefits of international accounting education. Panel A of Table 3 compares the means, standard deviations, and significance of the responses of academics and practitioners to four questions regarding the benefits of international accounting education. The responses are ranked on a five-point Likert scale with five representing "extremely important" and one indicating "no importance." Responses to the question that international accounting provides for global thinking reveal that both groups of respondents place substantial emphasis on international accounting education (mean responses of 4.024 for academicians compared with 3.955 for practitioners).

Academicians responded that international accounting makes students more desirable in the market with a 3.502 mean, while practitioners indicated a 3.626 mean. The statement that international accounting education prepares students to contribute in the global economy garnered a 3.854 mean from academicians and a 3.754 mean from practitioners. The mean responses for the first three questions in Panel A show no significant difference between academicians and practitioners. However, when asked if international accounting education provided the benefit of meeting accreditation requirements, academicians responded with a 3.302 mean versus a 2.832 mean from practitioners. This response is statistically significant (X^2 of 22.788 at $p < .01$), indicating that academicians recognize the importance of international accounting in meeting the AACSB's accreditation education requirement relatively more than practitioners, given that both groups do not consider its benefit as being important. The implication of this response, that academicians are more cognizant of AACSB accreditation requirements than practitioners, exposes a difference in what the two groups deem important. With academicians, accreditation is often a goal of the accounting and business program, and international accounting is a means of meeting the "global dimension" of accreditation requirements. Practitioners are perhaps less interested in how universities meet accreditation standards. Results presented in Table 3 imply that practitioners are more concerned with the benefits that students derive from international accounting education, while academicians place more emphasis on broader thinking and accreditation.

Panel B of Table 3 asked for the extent and type of support that each group would provide for promoting international accounting education. The majority of academicians (69.3 %) indicated that they would provide financial and educational support; 30.7 percent stated they would not support international accounting education. Among practitioners, whose questionnaire was worded somewhat differently, 18.7 percent stated they would provide financial support for international accounting education. Another 29.7 percent indicated they would provide support by emphasizing the recruitment of students with international accounting knowledge. Nearly 32 percent stated they would provide both financial and recruiting support, while 2.6 percent indicated other support. Only 17.4 percent of the practitioners stated they would not support international accounting education. This suggests that practitioners are supportive of international accounting and should encourage academicians and accounting programs to place more emphasis on international accounting in curriculum development.

CURRICULUM DEVELOPMENT OF INTERNATIONAL ACCOUNTING

Results pertaining to the curriculum development of international accounting education and methods of delivering such training are presented in Table 4. The first question of Table 4 addressed whether there should be concentrations in international accounting and international business. Almost 68 percent of academicians and 43 percent of practitioners had a positive response to a concentration in international accounting, while 20.9 percent of academicians and 55.5 percent of practitioners responded negatively. These responses were significantly different at $X^2$of 46.7154 at $p < .001$. Academicians seem more likely to desire a concentration in international accounting conceivably because of the potential for in-depth study of international accounting issues, while practitioners may view the need as one of general exposure and job preparedness. These findings are interesting in light of the Table 3 responses regarding support for international accounting: practitioners offer more support for these programs than academicians while at the same time indicating that such a concentration is not necessary.

Responses to the question dealing with business curricula providing a concentration in international business show the responses between the two groups are statistically significant at $p < .001$. Academicians indicated "yes" with a 55.8 percent response ratio, while accounting practitioners favored an international business concentration with 87.1 percent. Forty-three percent of the academicians were opposed to such a concentration, while only

Table 4: Curriculum Development of International Accounting

		Responses			
		Academicians		Practitioners	
1. Business Curricula Should Provide a Concentration In International:					
A. Accounting		No.	%	No.	%
	Yes	225	67.2	66	42.6**
	No	70	20.9	86	55.5
	No Response	40	11.9	3	1.9
	Total	335	100	155	100
B. Business					
	Yes	187	55.8	135	87.1**
	No	144	43.0	20	12.9
	No Response	4	1.2	--	----
	Total	335	100	155	100
2. International Accounting Should Be Integrated Into The Accounting Curriculum By:					
		Academicians		Practitioners	
		No.	%	No.	%
A. Offer separate international accounting course		50	14.9	68	43.9**
B. Integrate throughout all accounting and auditing courses		69	20.6	59	38.1
C. Both Methods		189	56.4	20	12.9
D. No Response		27	8.1	8	5.2
	Total	335	100	155	100

Note: **Significant at .01

12.9 percent of the practitioners were against providing a concentration in international business. These responses suggest that accounting academicians view international accounting as an area of concentration more important than international business, while accounting practitioners seem to hold an opposing view.

Given that there is no one "best" method of delivering international accounting education, question 2 of Table 4 provides responses to the controversial and unresolved issue of the preferred method of integrating international accounting into the curriculum. Academicians indicated the preference for offering a separate international accounting course by 14.9 percent versus 43.9 percent by accounting practitioners. Academicians responded by 20.6 percent to practitioners 38.1 percent for integrating international accounting throughout all accounting and auditing courses. The responses were statistically significant at $p <$ .001. These findings strongly differ from those of Stout and Schweikart (1989), who found strong support for a separate international accounting course. The overall responses to the question of delivery of international accounting education reveal that practitioners favor offering a separate international accounting course while academicians seem undecided as to which is the preferred method with 56.4 percent indicating that either method is equally acceptable. The implications of these responses may be that academicians feel that students should receive broader international coverage through a greater number of accounting courses, while practitioners favor a more concentrated single-course approach.

Our results are not consistent with those of Sherman (1987) which revealed that only 2.4 percent of surveyed universities offered a separate international accounting and about 94 percent integrated international topics into accounting and non-accounting courses. Perhaps current initiatives on global economies and businesses, as well as the expansion and diversity in international accounting topics during the past decade, have caused both practitioners and academicians to favor the development of a separate course in international accounting.

The authors suggest that accounting programs, in considering their program specifications and directions, should decide which of the two dominant methods of delivering international accounting education suits their program. Integration into courses throughout the accounting curricula assumes that all related courses pay proper attention to the critical aspects of international accounting. This process helps assure coverage of critical financial, managerial, auditing, business, and information systems aspects of international accounting. Offering a separate international accounting course: (1) gives more focus to the international accounting topics; (2) emphasizes the relative importance of international topics; and (3) provides adequate coverage of international topics.

Curriculum Content of International Accounting

Given the increased demand for international accounting education, a major question is "what should be the content of global accounting curricula?" A number of studies have examined international accounting topics that should be included in the curriculum (Dascher et al., 1973, Burns, 1979; Mintz, 1980; Agami, 1983; Sherman, 1987; Foroughi and Reed, 1987; Stout and Schweikart, 1989; Smith and Lasilla, 1990; Herremans and Wright, 1992; Conover et al., 1994). These studies recommended a variety of accounting topics for inclusion in an international accounting course. Each study found a different set

Table 5. Curriculum Content of International Accounting

Academicians				*Practitioners*			
Rank	*Mean*	*Std. Dev.*	*Topic*	*Rank*	*Mean*	*Std. Dev.*	*Chi-Square*
1	3.9403	1.3004	Foreign Currency Translation and Risk	1	4.4194	.8964	19.4878**
2	3.9015	1.3265	Environmental and Cultural Differences in IA	11	3.6065	.9293	24.8817**
3	3.6985	1.2627	International Transfer Pricing	4	3.9097	.8927	.7041
4	3.6955	1.3074	Causes of international differences in Acct.	13	3.5290	1.0648	6.8419**
5	3.5821	1.3619	International business ethics	7	3.8129	.9789	.8744
6	3.5672	1.2858	Performance Evaluation of Foreign Divisions	8	3.6968	.8707	.0587
7	3.5552	1.2438	Multinational Corp.'s Consolidation of Statements	2	4.1613	.8640	30.9874**
8	3.5224	1.2132	International Accounting Standards and Guidelines	5	3.8065	.9676	5.5036*
9	3.3940	1.3223	International Managerial Accounting	14	3.4194	.9728	.8196
10	3.3552	1.2957	International Auditing Standards and Practices	12	3.5935	.8194	.9074
11	3.1761	1.2722	Standardization of Global Accounting Practices	9	3.6839	.9586	17.3526**
12	3.1552	1.3402	Int'l Investment Portfolio Risk & Financial Services	3	4.1290	1.0550	67.7295**
13	3.0896	1.2589	Foreign Taxation of Corporations and Individuals	10	3.6774	.9996	25.9311*
14	2.9612	1.2908	Global Communications and Information Tech.	6	3.7290	1.0020	41.7101**
15	2.8179	1.2667	Int'l Internal and Operational auditing Standards	15	3.0000	1.0507	1.0593
16	2.6567	1.2131	Professional Acct. Organizations in Countries	19	2.6516	1.0907	.1886
17	2.5522	1.1873	Foreign Professional Certification and Licenses	18	2.6645	1.1124	.5079
18	2.4776	1.2255	Accounting for Foreign Govt. and Non-Profit	20	2.3226	1.1392	3.2590
19	2.4418	1.1328	Accounting for Property Expropriation	16	2.7355	.9742	6.0441*
20	2.3761	1.2557	Accounting Education in Various Countries	17	2.7290	1.1414	8.6021**

Notes: *Significant at .05
**Significant at .01

of rankings of international accounting topics depending on the time the study was done, suggested topics, participants' attributes, and the prevailing global initiatives at that time. Prior research reveals lack of uniformity in coverage of specific international topics, lack of agreement regarding what constitutes basic coverage, and lack of a consensus as to the relative importance of specific international topics. Current changes and initiatives in global environments and lack of consensus and uniformity in prior research motivated us further to compare practitioners' and academicians' perceptions toward the relative importance of international accounting topics.

Table 5 ranks the importance of coverage of various topics in international accounting by mean responses. The responses used a scale of one to five, with five being the "most important" and one being the "least important." The results were tested for differences in responses between academicians and practitioners using the parametric t-test and the non-parametric chi-square (both tests produced similar results). There were statistically significant differences in responses between academicians and practitioners on 11 of the 20 topics. The comparison of responses of academicians and practitioners reveal that not only were the rankings of topical importance different, but eight topics were significantly different at $p < .01$ and three others were significant at $p < .05$. The most robust differences in rankings between practitioners and academicians are on the following topics: (1) environmental and cultural differences; (2) causes of international differences in accounting; (3) multinational corporations' consolidation of financial statements; (4) global communications and information technology; (5) international accounting standards and guidelines; (6) international investment portfolio analysis, global risk management, international stock markets, banking and financial services; and (7) international accounting standards and guidelines. Practitioners appear to have more interest in the topics of MNCs consolidation of financial statements, international investment portfolio risk and financial services, international transfer pricing, international accounting standards and guidelines, and global communication and information technologies. Academicians, on the other hand showed more interest than practitioners in the coverage of environmental and cultural differences in international accounting, causes of international differences in accounting, and international managerial accounting. It seems that practitioners emphasize multinational business related issues more than academicians, while academicians place more importance on theoretical topics than practitioners.

Results presented in Table 5 reveal that although the relative importance of international accounting topics varies between practitioners and academicians, there is a general consensus as to the relevance of these topics in international accounting. The differences in rankings show that practitioners place more emphasis than academicians on accounting for consolidated MNCs, global risk management, global banking, and stock markets, information technology and communications. These results can be interpreted that academicians do not believe that these topics (e.g., global risk management, global banking and stock markets) belong in an international accounting course. Indeed, they seem better suited in an international finance course. Ranking of international accounting topics in terms of their importance to both academicians and practitioners assists both business schools and accounting programs in planning a 45-hour semester course in international accounting or for integrating these topics into a variety of accounting and auditing courses.

Mean responses from academicians on 13 of the 20 listed international accounting topics are greater than 3, suggesting a high degree of importance and relevance of coverage of these topics in an international accounting course. Practitioners, on the other hand, placed a high degree of importance on 15 of the 20 topics with mean responses of greater than 3. The 15 top ranked topics by both academicians and practitioners are: (1) foreign currency translation and risk; (2) environmental and cultural differences; (3) international transfer pricing; (4) causes of international differences in accounting; (5) international business ethics; (6) performance evaluation of foreign divisions; (7) MNCs consolidation of financial statements; (8) global communications and information technology; (9) international accounting standards and guidelines; (10) international managerial accounting; (11) international auditing

standards and practices; (12) standardization of global accounting practices; (13) international investment portfolio risk and financial services; (14) foreign taxation of corporations and individuals; and (15) international internal and operational auditing standards.

The following five topics were ranked as least important by both academicians and practitioners: (1) accounting for property expropriation; (2) accounting education in various countries; (3) professional accounting certificates and licenses in other countries; (4) professional accounting organizations in other countries; and (5) accounting in foreign government and not-for-profit organizations. These results indicate that the respondents did not view accounting education, professional organizations, certifications, and government accounting as being as important as other related international accounting issues. Today the United States is perceived to be an important force in accounting worldwide, leading other countries in such matters as educational budgets, expenditures for accounting research, number of accounting publications, professional and standard-setting accounting bodies, and number of graduates in accounting. Accordingly, in light of the developments in accounting education and practice in the United States during the past two decades, the above results may be interpreted as what is relevant in accounting education and practice in the United States is relevant elsewhere. Ignoring accounting education and practice, including professional organizations, could adversely affect the readiness and effectiveness of international accounting education and training in meeting the future global challenges.

The Kruskal-Wallis non-parametric test and one-way ANOVA were performed to examine differences in the responses among faculty, chairpersons, and deans. Only foreign currency translation and exchange risk, taxation in other countries, and accounting for property expropriation exhibited statistically significant differences among the respondents. Faculty members were more in agreement than administrators (chairpersons and deans) that foreign currency translation and foreign exchange risk management were important topical coverage areas. Both faculty and chairpersons placed more importance on international taxation issues than did deans. This may be attributable to most deans not having an accounting background and not being aware of the intricacies of the taxation of transnational business transactions. Additionally, although deans and chairpersons differed statistically on the importance of including accounting for property expropriation, all groups responded that this was not an important issue, probably because of the dramatic changes since the demise of the Soviet Union and the business liberalization in China and other countries desiring greater foreign investment. Mean responses on the other questions were not statistically different, indicating that there is a general agreement between faculty and administrators regarding the importance, demand, treatment, and delivery of international accounting education. The same test procedures were performed to detect differences in all responses between CFOs and managing partners. CFOs placed more emphasis on the coverage of (1) international managerial accounting; (2) causes of international differences in accounting; and (3) international accounting standards and guidelines, while managing partners placed greater emphasis on international communications and information technology. The mean responses on other international topics between CFOs and managing partners were not statistically significant, indicting that there is a general agreement between these two groups regarding the importance of the topical coverage of international accounting.

Differences between our results and those of Conover et al. (1994) centered on (a) the topical coverage choices (half the topics in our survey were different from those of

Conover et al.), (b) ranking of the suggested topics, and differences in rankings between academicians and practitioners. While foreign currency translation was the top choice in both studies, numerous other topics were ranked differently (e.g., Topics 2, 5, 9, 12, 13, and 14 presented in Table 5). Unlike Conover et. al's (1994) results, which displayed much divergence between syllabi and CFOs views, our results indicated that both groups-academicians and practitioners-considered the majority of the 20 suggested topics to be important for inclusion in an international accounting course. However, there is some degree of disagreement on the rankings of these topics. At least four plausible explanations exist for the differences in the results of our study and that of Conover et al. (1994). First, our study examined academicians' views on the ***future*** coverage of international accounting topics while the academicians section of Conover's results present ***past*** curriculum coverage of possibly out dated syllabi. Second, the potential lack of uniformity of the selected syllabi coupled with the fact that syllabi tend to be driven by available teaching materials might distort Conover's results in light of new initiatives in the global area. Third, Conover et al. (1994) ranked the importance of international accounting topics among academicians based on the number of schools teaching those topics which are somewhat inconsistent with the relative rankings of the topics by CFOs. Fourth, Conover et al. (1994) relied on international accounting course syllabi to rate the importance of international accounting topics by frequency of occurrence rather than soliciting direct faculty input, while we surveyed a group of academicians (faculty and administrators) for specific information regarding the importance international accounting topics.

Our study also differed from that of Stout and Schweikart (1989) in a number of ways. They included only seven areas of topical coverage compared with our 20. Of those seven topics, six were included in our study also, while the remaining 14 were unique to our study. A comparison of our topical results with those of Stout and Schweikart (1989) shows a similarity in the relative rankings of the topics common to both studies in terms of most to least important. However, our results show that numerous other international topics have gained importance. While foreign currency exchange translation and international transfer pricing were highest in both studies, environmental accounting issues, international business ethics, international investment risk, international auditing, and a number of other topics have become prominent in the period since they conducted their survey.

CONCLUSION

Globalization is prominent in the international financial community due to the high mobility of capital and advances in telecommunication. The emergence of global economies and businesses have provided impetus for international accounting education and practice. Curriculum development in international accounting is important: (1) because results of this study reveal that demand for international accounting practice and education has increased and will continue to do so among both groups of surveyed academicians and practitioners; (2) current reports (AAA 1986; AECC, 1990; IFCA, 1994; AACSB) have prompted business schools to address globalization in their curricula; (3) the globalization of economies and new initiatives on cross-border capital financing and free trade agreements (NAFTA,

GATT) has increased the awareness for university level education in international business and accounting; and (4) surveyed practitioners reported that international accounting education makes students more desirable in the current competitive job market.

According to Conover et al. (1994), determining essential international accounting topical coverage is dependent on the groups and time that a survey is conducted. They suggest that periodic evaluation is necessary to obtain an accurate assessment of what is important. Therefore, our study reaffirms some of their findings and those of Stout and Schweikart (1989) and adds to the literature on international accounting education by providing updated views and exposing important trend changes in the coverage and delivery of international accounting. Both academicians and practitioners agree that international business and accounting should be integrated into business and accounting curricula. However, there is a difference of opinion between academicians and practitioners as to the preferred methods of delivery of international education. Surveyed practitioners favor offering a separate international accounting course while academicians considered offering either a separate international accounting course or integrating international accounting throughout all accounting and auditing courses.

Fifteen of the 20 suggested international accounting topics are viewed as important for integration into the accounting curriculum by both groups of surveyed academicians and practitioners. The relative importance of the top 15 topics varies between the two groups, however, there is a general consensus as the importance of these topics to international accounting. Although a high degree of agreement exists between academicians and practitioners as to the topical coverage of international accounting, there is a statistically significant difference as to the importance of suggested international accounting topics. Ranking of international accounting topics in terms of their importance to both academicians and practitioners assists business schools and accounting programs to plan for a 45-hour semester course in international accounting or for integration of these topics into a variety of accounting and auditing courses.

The evolution of international accounting in the United States suggests that international education in the accounting curriculum has evolved from ***whether to teach international accounting*** to ***how to teach international accounting*** and, in light of current globalization initiatives, ***how to globalize the entire accounting program***. Current initiatives on globalization and free trade agreements underscore the importance of international dimensions in accounting education and practice. Views and insights from academicians and practitioners presented in this paper regarding the relevance, curriculum development, and curriculum content of international accounting education should be useful as many business schools in the United States and abroad redesign their curricula and move toward globalization of their business and accounting programs.

NOTES

1. These 15 institutions in alphabetical order are: Babson College; Bently College; Boston College; College of Staten Island, City University of New York; Eastern Michigan University; Kalamazoo College; Ramapo College of New Jersey; St. Olaf College; University of California-Los Angeles; University of California-San Diego; University of Michigan; University of Pennsylvania; University of Rhode

Island; University of South Carolina; and Worcester Polytechnic Institute.

2. The initial questionnaire was pilot-tested by sending it for review and criticism to 20 academicians and 15 practitioners known to the authors. Suggestions and comments of the participants, primarily related to wording, scaling, and organization, were incorporated into the final version of the questionnaire.
3. A statistical comparison of early and late respondents (for both groups) was performed. No statistical differences were observed for either group. Internal consistency reliabilities were calculated for all of the questions and considered to be acceptable for testing the relationships.

APPENDIX

International Accounting Questionnaire

This questionnaire is designed to determine the importance and coverage of international accounting in the accounting curriculum. Following completion of this questionnaire, please enclose it in the pre-addressed, postage-paid envelope provided. Thank you for your cooperation.

1. Do you expect future demand and interest in international accounting to:
   a. Increase .... [ ]
   b. Decrease? .... [ ]
   c. Remain the same? .... [ ]

2. Do you think internationalization and global-thinking in your organization during the past decade has
   a. Increased? .... [ ]
   b. Decreased? .... [ ]
   c. Remained the same? .... [ ]

3. Please indicate the importance of the perceived benefits of international accounting education by circling the appropriate number where 1=no importance and 5=extreme importance.

	No Importance				Extreme Importance
a. Provide global thinking	1	2	3	4	5
b. Make students more desirable in the marketplace	1	2	3	4	5
c. Prepare students to contribute professionally in a global economy	1	2	3	4	5
d. Meet accreditation education requirements (e.g., AACSB)	1	2	3	4	5
e. Other (please specify)	1	2	3	4	5

4. Should business curriculum provide a concentration in international

	Yes	No
Business?	___	___
Accounting?	___	___

5. How do you think international accounting should be integrated into accounting curriculum (please check all that apply)?
   _____ Offer a separate international accounting course.
   _____ Integrate through accounting and auditing courses.

6. Please indicate the extent to which you would agree with the following statements by circling the appropriate responses as 1=strongly disagree and 5=strongly agree.

	Strongly Disagree				Strongly Agree
a. International accounting course should be incorporated into accounting curriculum	1	2	3	4	5
b. The world is ready for a single set of International Accounting Standards	1	2	3	4	5
c. International Accounting Standards (IASs) should be accepted as global generally accepted accounting principles	1	2	3	4	5
d. IASs should be accepted for cross-border securities offerings and global financial reporting in the future	1	2	3	4	5

7. Please indicate the importance of covering the following topics in an international accounting course by circling the appropriate number where 1=the least important; 5=the most important.

	Least Important				Most Important
a. Standardization of global accounting standards, theories, and practices	1	2	3	4	5
b. Environmental factors and cultural differences in international accounting	1	2	3	4	5
c. International auditing standards and practices	1	2	3	4	5
d. Accounting in foreign government and not-for-profit organizations	1	2	3	4	5
e. International managerial accounting	1	2	3	4	5
f. International business ethics and professional code of conduct	1	2	3	4	5
g. Accounting education in various countries	1	2	3	4	5
h. Professional accounting organizations in other countries	1	2	3	4	5
i. Types of professional accounting certificates and licenses in other countries	1	2	3	4	5
j. International accounting standard setters' guidelines and standards	1	2	3	4	5
k. Foreign currency translation and foreign exchange risk management	1	2	3	4	5
l. International investment portfolio analysis, global risk management, international stock markets, banking and financial services	1	2	3	4	5
m. International communications and information technology	1	2	3	4	5

n. Multinational corporations' consolidation of financial statements	1	2	3	4	5
o. International transfer pricing	1	2	3	4	5
p. Performance evaluation of foreign divisions and corporations	1	2	3	4	5
q. Taxation in other countries, corporate, individual, estate tax rules	1	2	3	4	5
r. Causes of international differences in accounting	1	2	3	4	5
s. Accounting for property expropriation	1	2	3	4	5
t. International internal and operational auditing standards and practices	1	2	3	4	5
u. Others (please specify)	1	2	3	4	5

8. How would your organization support employees in promoting international accounting?
   a. financial and educational support .... [ ]
   b. emphasize recruiting student with international accounting knowledge .... [ ]
   c. Other (please specify) .... [ ]
9. **Comments**: Please feel free to comment on international business and accounting.

Thank you for your cooperation and assistance. If you wish to receive a copy of the results of this study, please check the following space and enclose a business card [ ].

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Book Review

Two Reviews: International Accounting, Financial Reporting and Analysis: A U.S. Perspective *by Allan B. Afterman, Warren, Gotham, & Lamont, Boston, 1996, $295; and* **A Guide to Applying International Accounting Standards,** *by David Cairns, The Institute of Chartered Accountants in England and Wales, Central Milton Keynes, United Kingdom, 909 p. $39.95*

Reviewed by Belverd E. Needles, Jr.

Two recently published books provide very different perspectives on the application of international accounting standards. Allan B. Afterman's book, *International Accounting, Financial Reporting, and Analysis* carries the subtitle, *A U.S. Perspective.* By this he means, "U.S. generally accepted accounting principles (GAAP) form the benchmark for comparing and contrasting the practices in other countries." He also compares U.S. practice with international accounting standards. In contrast, David Cairns, as former Secretary-Treasurer of the International Accounting Standards Committee, in *A Guide to Applying International Accounting Standards,* takes the vantage point of the international accounting standards as the benchmark against which other practices are measured. Both of these books are welcome additions to the international accounting literature. They will serve as valuable references for analysts, academics, students, and practitioners.

International Accounting, Financial Reporting, and Analysis is a loose-leaf reference book divided into three parts. Plans call for it to be updated twice per year. It is intended to be "a comprehensive single-volume source for identifying accounting and reporting financial diversity among countries." As such, it should be useful to preparers, attesters, investors, lenders, and generally any user of international financial statements. Part A (Chapters A1–A3) covers accounting and reporting for foreign currency transactions by U.S. multinational enterprises including a comprehensive treatment of the accounting for foreign currency swaps and options in managing foreign exchange risk.

Part B (Chapters B1–B11) is the largest section of the book. After an initial chapter on an overview of comparative international accounting, the accounting treatments of forty-five accounting topics are divided into ten chapters. In most cases, related topics are naturally grouped together. For example, Chapter B4 groups business combinations, consolidation, and investments in associated entities together. By necessity some of the groupings are not as closely related. For example, the grouping of inventory, with research and development costs, computer software development costs, and brands. It would per-

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haps have been better to have more chapters. In each chapter, the standards related to chapter topics are compared for fifteen countries, the International Accounting Standards (IASs), and accounting-related European Directives (EDs). The countries represent a good cross-section but may not be as comprehensive as some readers would like. The countries are from North America (Canada, Mexico, U.S.), Asia/Pacific (Australia, Israel, Japan, South Korea, and Singapore), and Europe (Belgium, France, Germany, Italy, The Netherlands, Sweden, and The United Kingdom). At appropriate points the text includes computational examples and more than eighty excerpts of financial statement presentations and footnotes from actual reports and SEC filings of foreign companies.

Part C (Chapters C1–C4) constitutes a series of four useful essays on international topics. Chapter C1 covers the application of U.S. GAAP and SEC financial reporting requirements to foreign companies. Chapter C2 covers auditing standards and practices in other countries. Chapter C3 presents a framework for international financial statement analysis, including a checklist for identifying accounting policy differences in foreign financial statements. Chapter C4 applies the analytical framework in a series of case studies to a U.K. company, a Belgium company, and a Japanese company.

A Guide to Applying International Accounting Standards is a handbook-size, paperback book of more than 900 pages that consists of forty-three chapters divided into an introduction and seven parts. The plans are to revise the book every two years. The author's stated purposes of the book are threefold:

- to assist those who wish to apply IASs in the presentation of published financial statements;
- to assist those who wish to develop national accounting requirements which conform with IASs; and
- to further the improvement and harmonization of financial reporting.

There is no attempt in this book to present comparative accounting practices around the world, but particularly interesting are the interpretations and background comments by Mr. Cairns of the development of certain IASs and possible future directions. Whereas Mr. Afterman focuses on the diversity of accounting practices that exist in the world, Mr. Cairns focuses on the progress toward and possibility for more harmonization. He clearly wants to see the world move toward IASC standards.

In keeping with the central focus of the book, Part 1 has five chapters devoted to the International Accounting Standards Committee (IASC), its structure, history, due process, and standards. This part provides an authoritive introduction to the IASC for the uninitiated. In each subsequent chapter, excerpts from the IASs are quoted to show the IASC positions with background, interpretations, and interrelationships presented. The focus of the presentation is on the principle involved. Detailed guidance is not provided, but usually accompanying each discussion are extracts from the financial statements of companies from around the world that follow IASs. The intent is to show the application of the IASs.

The remaining thirty-seven chapters of the book cover specific accounting and reporting topics beginning with concepts underlying a conceptual framework in the two chapters of Part 2 and the presentation of the major financial statements in the six chapters of Part 3. The other parts cover consolidated financial statements in Part 4 (six chapters), recognition and measurement of assets, liabilities, income and expenses in Part 5 (sixteen chapters), disclo-

sure issues in Part 6 (five chapters), and special enterprises in Part 7 (three chapters). The organization is aided by devoting each chapter to a single topic. Although there is a good index at the back of the book, it is easy to find the topics one is looking for by simply looking at the table of contents. For example, there are individual chapters on intangible assets, research and development costs, inventories, leases, and segmental reporting.

In summary, both of these books belong on the academics' bookshelf. As a high-priced, loose-leaf book, *International Accounting, Financial Reporting, and Analysis: A U.S. Perspective,* will serve more likely as a reference book than a textbook. It is particularly helpful when one is analyzing the financial statements of a company from a particular country, such as Germany or the Untied Kingdom, and wants to compare the country practices with those in the U.S. or with the IASs. Considerable detail is provided especially in the area of foreign currency accounting. While it serves as a good reference also, *A Guide to Applying International Accounting Standards,* because of its compact paperback, is more likely to serve as a textbook in an international accounting course where the focus is on international accounting standards at the conceptual level.

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ARTICLES

BOOK REVIEW

From the Editor

Vernon K. Zimmerman

1928–1996

Vern Zimmerman began his academic career as a Teaching Assistant at the University of Illinois in 1949. He joined the faculty as an assistant professor in 1956. While officially retired, Vern continued his professional life at the University of Illinois until his death on November 21, 1996. Vern died of after living a successful and very active professional, academic and personal life. Vern's professional life included periods with the U.S. Army Audit Agency and Price Waterhouse. His academic career included many accomplishments, numerous awards and honors, including: a Guggenheim Fellowship (1965-1966); a Fulbright Professorship at the Handelshochschule in Vienna, Austria (1960–1961); Dean of the College of Commerce and Business Administration (1971–1985); A.C. Littleton Professor of Accountancy; and, numerous visiting professorships in prominent international universities.

Much of Vern's academic career and commitment was devoted to advancing the cause of international education and research in business with a particular fondness for his academic roots in accounting. Vern became the Associate Director of the Center for International Education and Research in Accounting (CIERA) shortly after it was established in 1962. In 1964, Vern became the Director of CIERA. At the time of his death he was also the Director of International Programs for the College of Commerce and Business Administration. Vern's vision reached beyond traditional accounting issues long before the importance of a broad viewpoint was recognized by many of us. Under his leadership, CIERA sponsored many important programs advancing international accounting ideas. These programs included those for key personnel of the comptroller offices of the U.S. Agency for International Development and a multiyear contract under the auspices of the World Bank to review and enrich the offerings of the five business schools in Bangladesh. The first business school in Tunisia was established with help from the Center for International Education and Research in Accounting. Under Vern's Directorship, CIERA took the lead in developing and nurturing the international accounting community's intellectual and professional growth. Vern was free in granting credit to others for the success of these ventures. He understood the importance of a team effort. Nevertheless, he was a motivating force behind every CIERA initiative.

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In 1965 CIERA published the first issue of *The International Journal of Accounting Education and Research*, now *The International Journal of Accounting* (IJA). Vern was the first and only editor of the *Journal* until his death this year. The goal of the *Journal*, Vern's goal, was the advancement of academic and professional understanding of accounting theory and practice from an international perspective. In addition to the *Journal,* CIERA published more than fifteen monographs on a variety of international topics and sponsored more than thirty international seminars.

Vern effectively created, nurtured and managed the Department of Accountancy and College of Commerce and Business Administration Visiting Scholar's Program. The visiting scholars and international student exchange programs are managed for the College and Departments by CIERA. Many students and over 400 international professors have been attracted to the Center during the past twenty-five years. Visiting scholars are invited to participate in ongoing research and lecture programs and often establish joint research projects with members of the Department of Accountancy and other College Departments.

Vern's leaves a rich legacy for the University of Illinois and the international accounting and business communities. We will all miss Professor Vernon K. Zimmerman. No one can replace Vern in stature or accomplishment. We at the CIERA will endeavor to honor Vern's memory by maintaining the same focus on quality and dynamic change that he brought to all of his CIERA endeavors.

Andrew Bailey
Editor, IJA

The International Journal of Accounting

An Investigation of Market Response to Earnings Announcements: Multinational Firms versus Domestic Firms

Agnes Cheng, K. Hung Chan and Woody Liao
University of Houston, University of California, Riverside, and, The Chinese University of Hong Kong

Key Words: Domestic firms; Earnings announcement; Market response; Multinational firms

Abstract: *Capital market responses to accounting earning announcements have been well documented in the accounting literature. These responses may vary with firm size, analyst following, and other variables. This study investigates the effect of multinational operations as a proxy for operational and informational complexity on market responses to earnings announcements. The results show that multinational operations provide significant explanatory power for market responses to earnings announcements after controlling the factors of firm size and analyst following.*

INTRODUCTION

Previous studies (Atiase, 1985; Bhushan, 1989a, 1989b; Foster, Olsen, & Shevlin, 1984; Freeman, 1987; Ro, 1988) have found that market responses to accounting earnings inversely vary with firm size. This empirical finding of size-related differential information may be interpreted in various ways. Some researchers (Bathke, Lorek and Willinger, 1989) interpreted that firm size is a surrogate for earning predictability. Large firms have more accurate earning forecasts and thus experience less price reaction upon earnings announcements. Firm size also has been viewed by some accounting researchers (Watts & Zimmerman, 1978) as a surrogate for political costs. Since political costs increase with firm size, managers of large firms are more likely to smooth income (Jensen & Meckling, 1978; Watts & Zimmerman, 1978; Zmijewski & Hagerman, 1981). Avoidance of political sensitivity and income smoothing generally implies stable income and less surprise effects on the market. Also, some researchers (Atiase, 1985;

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Freeman, 1987) have linked the size-related differential information to analysts' different incentives for information search between large and small firms. According to this interpretation, incentives for information search are affected by expected marginal net benefits (trading profit less search cost) from private information searches. More private information searches (i.e., analyst following) result in more information exposure, which means more information production and dissemination by private parties to identify mispriced securities. This private information search process prediscloses new information about earnings and leaves little information content on earnings announcements. Generally speaking, operations of large firms are complex and thus provide increased net benefits for private information search. Increased private information searches result in earning announcements by large firms that are less informative or have less information content.

Motivated by the interpretation that size-related differential information is due to private information searches (proxied by analyst following), several studies have further investigated the determinants and the effect of analyst following. For example, Bhushan (1989b) identified and tested the effect of a set of firm characteristics (ownership structure, firm size, return variability, number of lines of businesses, correlation between firm return and market return) on analyst following. His results indicated that almost all of these firm characteristics (except the number of lines of businesses) strongly affect the extent of analyst following of firms. In a separate study, Dempsey (1989) empirically contrasted the earning announcement price response performance between the firm size factor and the analyst following factor. He reported that thinly followed large firms have significantly larger price reaction of earnings announcements than do widely followed small firms. Therefore, he suggested that analyst following for predisclosure information may carry explanatory power beyond that associated with firm size alone. Dempsey's finding may be reconciled with Bhushan's result because firm size is only one of the significant determinants of analyst following found by Bhushan. Furthermore, in another study, Shores (1990) analyzed the information content of earnings announcements by using seven variables including firm size, analyst following, and five other firm-specific variables to proxy for firm's interim information. His results generally support the predicted associations between the proxies for the level of interim information and returns around earnings announcements. He suggests, however, that it may be premature to conclude that firm size alone adequately proxies for the level of interim information. In other words, some other firm characteristics may be better proxies for the disclosure of interim information. In addition to the studies mentioned previously, Lobo and Mahmoud (1989) provided evidence indicating that size alone is not necessarily enough to surrogate the earning information exposure level.

As noted, the existing empirical evidence suggests that firm size alone may not be enough to proxy for differential predisclosure information and the exogenous analyst following variable may carry additional explanatory power than the endogenous firm size factor alone. Although the exogenous analyst following variable has been found to outperform the endogenous firm size variable in explaining different predisclosure information, its explanatory powers found in previous studies are generally low. This suggests that other firm-specific characteristics may provide additional explanatory power of differential predisclosure information.

Today, many U.S. firms have expanded their operations to multinational markets. Multinational firms and domestic firms differ inherently in operational and informational complexity. Although multinational firms can spread investments in foreign countries and reduce investment risk, they generally must confront more operational and informational complexity because of foreign government regulations, overseas operations, and fluctuations in exchange rates. As Cheng, Hopwood, and McKeown (1992) reported, market responses to earnings announcements of multinational firms are smaller than those of domestic firms. Motivated by this empirical evidence, this study investigates whether the firm-specific characteristic of multinationality provides a proxy for differential predisclosure information beyond that of firm size and analyst following. Finding that both the endogenous firm size factor and the exogenous analyst following variable are controlled and a significant market response difference exists between multinational and domestic firms may suggest that operational complexity in multinational firms provides additional explanatory power of predisclosure information.

The empirical results of this study show significant market response differences between domestic and multinational firms even after controlling the firm size variable and the analyst following factor. The results support the predicted effects of operational complexity measured by firm multinationality on the association between security returns and annual earnings announcements. These results document that differential predisclosure information is affected by the inherent differences in operational and informational complexity between domestic and multinational firms and that firm multinationality carries explanatory power beyond that associated with firm size and analyst following.

The remainder of the paper is organized as follows. The next section discusses the research design. This is followed by a description of the sample selection, and then the results of the empirical tests are reported. The final section concludes the study with a summary of the findings.

RESEARCH DESIGN

Market Responses

A general assumption underlying the earning-return association is that the earnings variable correctly surrogates the ex ante future cash flows so that the difference between the realized earnings and the expected earnings represents new information. This new information causes market responses upon its release. However, as Bathke, Lorek and Willinger (1989) noted, the more accurate earnings forecasts of large firms relative to small firms may be the cause for lower market responses to larger firms' earnings announcements. If small firms' earnings forecasts are in fact less accurate, the market may react more responsively to the earnings releases because of the availability of new information and the adjustment for forecast inaccuracy. In all previous studies of the size effect on the earnings-returns association, however, the earnings response coefficient between large and small firms has been assumed to be the same. But, as noted, their unexpected earnings distributions may differ because of their different forecast accuracies. More accurate large firms would have smaller unexpected earnings distribu-

tion, and less accurate small firms would have larger unexpected earnings distribution. In addition to the measurement errors of unexpected earnings, nonlinear relationship between returns residuals and unexpected earnings have been documented in the literature (Cheng, Hopwood & McKeown, 1992; Das & Lev, 1991; Freeman & Tse, 1992). To avoid possible measurement problems of unexpected earnings and poor model specification, this study considers the magnitude of unexpected earnings and employs a regression-portfolio model for measuring market responses. The regression-portfolio model explaining the relationship between returns and earnings has been empirically tested and proved to produce stable results and more power than the linear model (Cheng, Etheridge, & Nolan, 1994). Our regression-portfolio model is designed to combine the advantages of both the market response model, which filters out the unexpected earnings, and the portfolio analysis, which is less sensitive to measurement errors and nonlinearity problems. This model also is consistent with the finance assumption that investment decisions are made by constructing portfolios of stocks based on the magnitude of unexpected earnings.

The detailed procedure of this regression portfolio methodology is described here. First, all observations are sorted into 10 portfolio levels according to the magnitude of unexpected earnings (*UE*). Then a portfolio indicator (from 1 to 10) is assigned to each observation. The market response coefficient *b* is then estimated by regressing the return residuals (*RR*) against the portfolio levels. The estimated coefficient *b* represents the average incremental return residual for each portfolio. The coefficient *b* instead of the return residual is thus used as the measurement of market responses. This basic relationship is described in the market response regression model in (1):

$$RR_{it} = a_j + b_j I_{it} + e_{it}; \tag{1}$$

where

a_j = the constant for portfolio group *j*
b_j = the market response coefficient for portfolio group *j*
I_{it} = the portfolio group to which UE_{it} (unexpected earnings for firm *i* at time *t*) belongs
e_{it} = error term

One difficulty in using the market response model is identifying the event windows. To avoid measurement errors, the event window for calculating *RR* should be as close as possible to that for calculating the *UE*. In general, a long event window performs better than a short event window in measuring the association between price reactions and accounting information. Collins and Kothari (1989) used long event windows to test the association between market responses and firm size. Therefore, the annual event window is used in this study to test the proposed differential information hypothesis.

Effect of Operational Complexity

In general, multinational firms are larger than domestic firms. Therefore, according to the differential information hypothesis related to firm size and analyst following, market responses to earnings announcements of multinational firms are expected to be smaller

than those of domestic firms. However, multinational effects differ from firm size effects because, in addition to the difference in firm size and analyst following, multinational and domestic firms differ inherently with respect to risk, operational complexity, and informational complexity. For example, multinational firms have more diversified investments in foreign countries than do domestic firms. Also, dealing with foreign governments, overseas operations, and fluctuations of foreign exchange rates increases operational and informational complexity for the multinational firms. Risk and complexity are key features of multinational operations. Easton and Zmijewski (1989) and Collins and Kothari (1989) showed that the earnings response coefficient (ERC, derived by regressing the magnitude of price changes against changes of earnings) varies negatively with market risk. None of the previous studies, however, has investigated the effect of operational and informational complexity on market responses. This study uses the multinational-domestic (MD) dichotomy as a surrogate for operational and informational complexity and investigates whether this dichotomy provides additional explanatory power for differential predisclosure information beyond that provided by the firm size variable and the analyst following factor.

Measurement of Variables

Market Responses

Market responses are estimated based on the market response regression model developed in (1). The following items are used to estimate market responses.

Event Windows. Six annual event windows (years 1983 to 1988) are identified for each sample firm. The annual event window begins on January 1 and ends on December 31. Previous studies have shown that the results are generally robust to various measurements of event windows (Collins & Kothari, 1989).

Return Residuals (RR). Return residuals are derived from the market model. The market model coefficients are first estimated using 60 months prior to the beginning of the event window. The model coefficients are then used as prediction parameters to estimate the expected returns over the event window. Return residuals for each event window equal the sum of the differences between monthly realized returns and expected returns.

Unexpected Earnings (UE). A random walk model is used to estimate the market expectation of earnings. The earnings change represents the unexpected earnings. This model performs as well as other time-series and analyst forecast models in annual event windows. The unexpected earnings are scaled by prices at the beginning of the event windows (Christie, 1987).

Market Response Regression Model. All observations are grouped into 10 portfolios according to the magnitude of *UE*. The portfolio levels are considered independent variables in the regression model. The estimated coefficient b represents the average incremental residual returns for each portfolio. The basic model predicts that the expected

RR for portfolio 1 (the one with the smallest *UE*) equals a + *b* and that for portfolio 10 is a + 10b.

Explanatory Variables: Proxies for Predisclosure Information

Total market value (*VA*) and total assets value (*TA*) are used as the size proxies for predisclosure information level. They are measured in terms of the average of the beginning and ending market values and assets values, respectively. Number of *Wall Street Journal* articles (*WSJ*) and number of analyst following (*NOA*) are used as the private information search proxy for predisclosure information level. *WSJ* is measured in terms of the total number of articles that appeared in the *Wall Street Journal Index* each year. *NOA* is measured in terms of the monthly average of the number of analyst following reported by IBES each year.

Test Procedures

To test whether a proxy for predisclosure information significantly affects the market response, all sample observations are grouped into three levels (small, medium, and large) for each proxy. The market response regression model (1) is first run for each group and then comparisons are made between groups for their market response coefficients. The small group is expected to have the highest market response coefficient. To test whether the domestic and multinational firms have different magnitudes of market responses, market response coefficients are further generated for domestic and multinational firms within each of the three groups, and then their coefficients are compared. In other words, we test the following hypothesis:

The multinational-domestic dichotomy provides additional explanatory power of differential predisclosure information beyond that associated with firm size and analyst following.

SAMPLE SELECTION

The sample consists of multinational firms and domestic firms. Multinational firms are selected from *Directory of Multi-National Firms* (Stafford & Purkiss, 1989). Domestic firms are selected to match the multinational firms based on industry (four-digit SIC codes) and size. In some cases, no domestic firms can be matched with the multinational firms based on the four-digit SIC code. Domestic firms also are usually smaller in size than the multinational firms. Therefore, it is expected that the domestic sample size will be smaller than the multinational sample size. For each event year, the observations are required to satisfy the following criteria:

1. Data are available from the annual Compustat tape for total assets, price, common shares outstanding, earnings per share, and adjustment factor for two consecutive years. Data for previous years are needed to compute unexpected earnings and average firm size.
2. Analyst following of the annual forecasts is reported in the IBES tape for the event year.

3. At least 50 observations of monthly returns are available for market models within the 60 months prior to the event year.
4. Monthly returns are available for all of the 12 months in the event year.
5. Fiscal years end on December 31.

The final sample consists of 954 observations. The domestic sample size (168) is smaller than the multinational sample size (786) after satisfying the data constraints. For purposes of proper control of firm size, the total sample of 954 observations is first divided into three categories (large, medium ,and small) with 318 observations in each category. Within each size category, the sample of 318 observations is further divided into multinational and domestic firms. Because multinational firms in general are larger than domestic firms, more domestic firms are in the small category than in the large category, and more multinational firms are in the large category than in the small category. Therefore, the resulting sample sizes vary in different categories as reported in Tables 1 and 2. Table 2 also provides the detailed distribution of domestic and multinational firms for each independent variable group. The size effect is controlled in this research design because market response for multinational and domestic firms of the same size category is compared.

Table 1. Market Responses: Domestic and Multinational Firms Are Combined

Var	*Size*	*NO.*	R^2	*Constant*		*Market Resp.*		*Small-Large*
1. Based on Total Observations								
		954	8.7	-0.11	(0.02)**	0.30	(0.03)**	
2. Based on Groups Identified by *TA* and/or *VA*								
TA	Small	318	14.1	-0.22	(0.04)**	0.49	(0.07)**	
	Medium	318	5.9	-0.07	(0.03)*	0.23	(0.05)**	
	Large	318	5.8	-0.05	(0.02)*	0.18	(0.04)**	0.31
VA	Small	318	12.7	-0.20	(0.04)**	0.45	(0.07)**	
	Medium	318	6.6	-0.07	(0.02)**	0.21	(0.04)**	
	Large	318	4.5	-0.04	(0.02)*	0.17	(0.04)**	0.28
TA/	Small	256	15.0	-0.23	(0.04)**	0.51	(0.08)**	
VA	Medium	189	6.3	-0.06	(0.03)*	0.22	(0.06)**	
	Large	244	4.4	-0.02	(0.02)	0.15	(0.05)**	0.36
3. Based on Groups Identified by *WSJ* and/or *NOA*								
WSJ	Small	313	13.7	-0.20	(0.03)**	0.45	(0.06)**	
	Medium	326	12.8	-0.12	(0.03)**	0.35	(0.05)**	
	Large	315	2.4	-0.04	(0.03)	0.13	(0.05)**	0.32
NOA	Small	318	15.3	-0.22	(0.04)**	0.49	(0.07)**	
	Medium	320	5.9	-0.07	(0.03)**	0.23	(0.05)**	
	Large	316	3.5	-0.03	(0.02)	0.14	(0.04)**	0.35
WSJ/	Small	202	14.8	-0.24	(0.05)**	0.51	(0.09)**	
NOA	Medium	140	9.9	-0.09	(0.04)*	0.30	(0.08)**	
	Large	182	3.4	-0.03	(0.03)	0.13	(0.05)**	0.38
4. Based on Groups Identified by *TA/VA/WSJ/NOA*								
TA/	Small	171	16.2	-0.27	(0.05)**	0.55	(0.10)**	
VA/	Medium	63	11.5	-0.09	(0.05)	0.30	(0.10)**	
WSJ/	Large	140	3.3	-0.02	(0.03)	0.13	(0.06)*	0.42
NOA								

Notes: ** Null is rejected at .01.
* Null is rejected at .05.

Table 2. Market Responses: Domestic and Multinational Firms Are Separated

			No.	R^2	*Constant*		*Market Resp.*		*D-M*
1. Based on Total Observations									
Domestic			168	16.1	-0.28	(0.06)**	0.56	(0.10)**	
Multinational			786	6.7	-0.07	(0.02)**	0.23	(0.03)**	0.33
2. Based on Groups Identified by *TA* and/or *VA*									
TA	Small	D	136	15.3	-0.29	(0.06)**	0.58	(0.12)**	
		M	182	13.8	-0.16	(0.04)**	0.38	(0.07)**	0.20
	Medium	D	20	22.3	-0.24	(0.15)	0.53	(0.23)*	
		M	298	4.8	-0.06	(0.03)*	0.21	(0.05)**	0.32
	Large	D	12	36.1	-0.12	(0.07)	0.28	(0.12)*	
		M	306	5.5	-0.05	(0.02)*	0.18	(0.04)**	0.10
VA	Small	D	140	16.5	-0.30	(0.06)**	0.58	(0.11)**	
		M	178	9.7	-0.12	(0.04)**	0.33	(0.08)**	0.25
	Medium	D	18	5.6	-0.08	(0.11)*	0.20	(0.21)	
		M	300	6.7	-0.07	(0.02)**	0.20	(0.05)**	0.00
	Large	D	10	20.4	-0.09	(0.15)	0.34	(0.24)	
		M	308	4.0	-0.03	(0.02)	0.16	(0.04)**	0.18
TA/	Small	D	129	15.3	-0.29	(0.07)**	0.58	(0.12)**	
VA		M	127	16.3	-0.17	(0.04)**	0.41	(0.08)**	0.17
	Medium	D	--	--	--		--		
		M	189	6.3	-0.06	(0.03)*	0.22	(0.06)**	--
	Large	D	9	46.6	-0.12	(0.08)	0.31	(0.12)*	
		M	335	4.0	-0.02	(0.02)	0.15	(0.05)**	0.16
3. Based on Groups Identified by *WSJ* and/or *NOA*									
WSJ	Small	D	123	16.6	-0.29	(0.07)**	0.61	(0.12)**	
		M	190	11.5	-0.12	(0.03)**	0.28	(0.06)**	0.33
	Medium	D	35	10.8	-0.15	(0.11)	0.36	(0.18)*	
		M	291	13.3	-0.12	(0.03)**	0.36	(0.05)**	0.00
	Large	D	10	36.4	-0.39	(0.10)**	0.38	(0.18)*	
		M	305	2.0	-0.03	(0.03)	0.12	(0.05)*	0.26
NOA	Small	D	121	16.4	-0.30	(0.07)**	0.60	(0.12)**	
		M	197	15.6	-0.15	(0.03)**	0.41	(0.07)**	0.19
	Medium	D	38	16.2	-0.22	(0.09)*	0.42	(0.16)*	
		M	282	5.0	-0.06	(0.03)*	0.20	(0.05)**	0.22
	Large	D	9	14.5	-0.06	(0.15)	0.28	(0.25)	
		M	307	3.2	-0.03	(0.02)	0.13	(0.04)**	0.15
WSJ/	Small	D	106	17.0	-0.31	(0.08)**	0.62	(0.14)**	
NOA		M	96	11.7	-0.13	(0.04)**	0.30	(0.09)**	0.32
	Medium	D	16	17.7	-0.19	(0.17)	0.47	(0.27)	
		M	124	8.7	-0.08	(0.04)	0.27	(0.08)**	0.20
	Large	D	--	--	--		--		
		M	181	3.6	-0.03	(0.03)	0.13	(0.05)*	--
4. Based on Groups Identified by *TA/VA/WSJ/NOA*									
TA/	Small	D	104	16.6	-0.31	(0.08)**	0.62	(0.14)**	
VA/		M	67	17.9	-0.18	(0.06)**	0.38	(0.10)**	0.24
WSJ/	Medium	D	--	--	--		--		
NOA		M	59	10.6	-0.09	(0.05)	0.29	(0.11)*	--
	Large	D	--	--	--		--		
		M	140	3.3	-0.02	(0.03)	0.13	(0.06)*	--

Notes: ** Null is rejected at .01.
* Null is rejected at .05.

EMPIRICAL RESULTS

Descriptive Statistics

Table 3 reports descriptive statistics about the samples. Panel A.1 displays the distribution of four predisclosure proxy variables (*TA, VA, WSJ, NOA*) and *UE* and *RR* are used in the market response model for the total samples. Panels A.2 and A.3 report the same basic statistics for domestic and multinational samples, respectively.

Panel B in Table 3 displays Spearman correlation coefficients *of TA, VA, WSJ, NOA, UE*, and *RR*. The four predisclosure information proxies are highly correlated for both domestic and multinational samples and the total samples.

Market Responses and Information Proxies

Market response coefficients are generated and analyzed for various groups under consideration. Four groups are considered in this study: all sample observations (1) with no control for predisclosure information proxies, (2) with control for endogenous firm size factors (*TA*, *VA*, and *TA/VA*), (3) with control for exogenous private information search variables (*WSJ*, *NOA*, and *WSJ/NOA*), and (4) with control for all endogenous firm size and private information search factors (*TA/VA/WSJ/NOA*). The control procedure is performed in the following manner. First, ranks of 0, 1, and 2 (for small, medium, and large, respectively) are assigned to each sample observation based on a predisclosure information measure. Second, the observations assigned with the same rank for the control variable(s) are identified as a group for further analysis.

Market Responses for Combined Domestic and Multinational Firms

For purposes of comparisons, Table 1 reports market responses for cases in which domestic and multinational firms are not controlled. Market responses are found significant at the .01 level or the .05 level for all cases analyzed. Panel 1 displays the resulting market response coefficients for all sample observations as a group. The constant is -0.11, and the market response coefficient is 0.30; both are rejected at the .01 significance level.

Panel 2 in Table 1 summarizes the resulting market response regression coefficients for the small, medium, and large groups of firm size. The market responses follow a decreasing pattern with firm size increases in each of the three measures of firm size variable. Particularly, when combined *TA/VA* is used as the firm size variable, a more dramatic effect of size on the association between returns and earnings announcements appears. On the other hand, Panel 3 reports the market responses when the exogenous measures of predisclosure information are controlled. The results are similar to those in Panel 2. Again, a small number of *WSJ* and *NOA* show more market responses than a large number of *WSJ* and *NOA*.

Panel 4 reports the market responses for each size group when all endogenous variables (*TA* and *VA*) and exogenous variables (*WSJ* and *NOA*) are controlled simultaneously. In this case, the difference in the market responses for the small and the large size groups is 0.42, the largest among all categories in Table 2. The effects of firm size and private infor-

Table 3. Sample Descriptions

	TA	*VA*	*WSJ*	*NOA*	*UE*	*RR*
Panel A: Descriptive Statistics						
1. For Total Observations (N = 954)						
Mean	5963	4097	36	17.93	0.024	0.021
(Std.)	(10036)	(7880)	(49)	(9.99)	(0.341)	(0.294)
Med.	2681	1972	21	17.17	0.008	0.005
Min.	31	18	0	1.00	-3.431	-1.548
Max.	94161	85567	465	44.25	7.636	2.579
2. For Domestic Sample (N = 168)						
Mean	1104	713	14	8.37	0.077	-0.016
(Std.)	(1549)	(1238)	(13)	(7.50)	(0.731)	(0.452)
Med.	438	183	12	5.87	0.010	-0.034
Min.	31	22	0	1.00	-3.431	-1.548
Max.	7701	6987	99	36.25	7.636	2.579
3. For Multinational Sample (N = 786)						
Mean	7001	4820	40	19.97	0.013	0.029
(Std.)	(10753)	(8490)	(52)	(9.24)	(0.160)	(0.250)
Med.	3272	2456	24	19.41	0.007	0.010
Min.	57	18	0	1.00	-2.249	-0.836
Max.	94160	85567	465	44.25	1.840	1.500
Panel B: Spearman Correlation						
1. For All Observations(N = 954)						
TA		0.877**	0.672**	0.774**	-0.001	0.085**
VA			0.583**	0.864**	-0.024	0.071*
WSJ				0.529**	-0.025	0.021
NOA					-0.027	0.076*
UE						0.300**
2. For Domestic Sample (N = 168)						
TA		0.655**	0.535**	0.634**	0.043	0.055
VA			0.476**	0.895**	-0.035	-0.005
WSJ				0.484**	0.059	-0.042
NOA					-0.034	0.016
UE						0.487**
3. For Multinational Sample (N = 786)						
TA		0.830**	0.634**	0.692**	0.002	0.062
VA			0.519**	0.821**	-0.014	0.043
WSJ				0.428**	-0.020	0.018
NOA					-0.018	0.066
UE						0.250**

Notes: Reject the null of zero value at .01

* Reject the null of zero value at .05.

mation search on market responses are summarized for various firm sizes and/or levels of private information search in Table 4.

The results presented in Table 4 are consistent with the findings previously reported in the literature. Market responses vary inversely with firm size and private information search. Furthermore, the effects of private information search appear to be larger than that of firm size. This is shown in the difference in market response coefficients for the small and the large groups in each information surrogate category. Although Table 1 provides evidence of significant effects of firm size and private information search on the relationship between returns and earnings announcements, the low R^2 in each case suggests that

Table 4. The Effects of Firm Size and Private Information Search on Market Responses

Predisclosure Information Surrogate Groups	*Group*	*Market Response Coefficient*	*Difference between Small and Large*
	Small	.49	
TA	Medium	.23	
	Large	.18	.49 - .18 = .31
	Small	.45	
VA	Medium	.21	
	Large	.17	.45 - .17 = .28
	Small	.51	
TA/VA	Medium	.22	
	Large	.15	.51 - .15 = .36
	Small	.45	
WSJ	Medium	.35	
	Large	.13	.45 - .13 = .32
	Small	.49	
NOA	Medium	.23	
	Large	.14	.49 - .14 = .35
	Small	.51	
WSJ/NOA	Medium	.30	
	Large	.13	.51 - .13 = .38
	Small	.55	
TA/VA/WSJ/NOA	Medium	.30	
	Large	.13	.55 - .13 = .42

other proxies for predisclosure information level may provide additional explanatory power.

Market Response for Separated Domestic and Multinational Firms

Table 2 reports market responses for the domestic and multinational samples in various cases. In general, the average R^2s in Table 2 are higher than those in Table 1. Market responses also are found to be significant at the .01 or .05 level in most of the cases analyzed except those with extremely small samples. Panel 1 in Table 2 displays the market responses for the domestic samples and the multinational samples. The domestic firms have a larger market response coefficient than the multinational firms. The market response difference between the two samples is 0.33.

To further test whether the significant difference in market response found in the domestic-multinational classification also appears in other categories, each predisclosure information surrogate category is compared. Panel 2 in Table 2 reports the resulting market responses for domestic and multinational samples within each of the predisclosure information surrogate categories. Although some unequal sample sizes exist between large domestic and multinational firms, most of the compared cases show a significant difference in their market responses.

Effects of Firm Multinationality on Market Responses

Table 5 summarizes the effects of firm multinationality on market responses for various firm sizes and levels of private information search. It was found that the market responses

of domestic firms are consistently larger than those for multinational firms in each group examined. The market responses of the small/domestic group also are consistently larger than those of the large/multinational group within each category of predisclosure information surrogate. Taken together, these results support the hypothesis that the multinational-domestic dichotomy provides additional explanatory power of differential predisclosure information beyond that associated with firm size and analyst following.

Table 5. Effects of Firm Multinationality on Market Responses

Differential Information Surrogate	*Group*	*Multi-nationality*	*Market Response Coefficient*	*Difference between D and M*	*Difference between Small D and Large M*
	Small	*D*	.58		
		M	.38	.20	
TA	Medium	*D*	.53		
		M	.21	.32	
	Large	*D*	.28		
		M	.18	.10	.58 - .18 = .40
	Small	*D*	.58		
		M	.33	.25	
VA	Medium	*D*	.20		
		M	.20	—	
	Large	*D*	.34		
		M	.16	.18	.58 - .16 = .42
	Small	*D*	.58		
		M	.41	.17	
TA/VA	Medium	*D*	*		
		M	.22	—	
	Large	*D*	.31		
		M	.15	.16	.58 - .15 = .43
	Small	*D*	.61		
		M	.28	.33	
WSJ	Medium	*D*	.36		
		M	.36	—	
	Large	*D*	.38		
		M	.12	.26	.61 - .12 = .49
	Small	*D*	.60		
		M	.41	.19	
NOA	Medium	*D*	.42		
		M	.20	.22	
	Large	*D*	.28		
		M	.13	.15	.60 - .13 = .47
	Small	*D*	.62		
		M	.30	.31	
WSJ/NOA	Medium	*D*	.47		
		M	.27	.20	
	Large	*D*	*		
		M	.13	—	.62 - .13 = .49
	Small	*D*	.62		
		M	.38	.24	
TA/VA/WSJ/NOA	Medium	*D*	*		
		M	.29	—	
	Large	*D*	*		
		M	.13	—	.62 - .13 = .49

Note: * No domestic samples can be found to match with mutlinational samples.

SUMMARY

In the early literature, firm size was considered a dominant factor in explaining differential information in earnings announcements. Several previous studies have suggested, however, that factors (such as analyst followings) in addition to firm size may be important factors in the study of the relationship between returns and earnings announcements. This study investigated the effect of firm multinationality on the association of security returns and annual earnings announcements. A regression portfolio model is developed and used to estimate market responses to the magnitude of unexpected returns. This regression portfolio model is designed to mitigate the problem of earnings measurement errors and to relax the previous assumption of the same earnings response coefficient between large and small firms. This model captures the advantages of both the market response model and the portfolio analysis.

The results of this study confirm the existence of the effects of firm size and analyst following on differential predisclosure information as found in the previous studies. This study also found that analyst following proxy for differential predisclosure information carry explanatory power beyond that associated with firm size alone. More important, this study found that firm multinationality is an important proxy for differential predisclosure information. Furthermore, the multinational-domestic dichotomy provides explanatory power beyond that associated with firm size and analyst following in the study of the relationship between security returns and earnings announcements.

NOTE

This research was conducted while K. Hung Chan was on leave from the University of California, Riverside.

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Problems of Accounting Reform in the People's Republic of China

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Key Words: Accounting standard portability; Agency theory; Chinese accounting education; Chinese accounting reform; Chinese economic reform; Property rights

Abstract: *The promulgation of the Enterprise Accounting Standard (EAS) in 1992 signified a major accomplishment in unifying accounting practices in the People's Republic of China (PRC) and harmonizing them with international practices. This article identifies and analyzes the problems encountered in the PRC since the implementation of the EAS in July 1993. These problems result from the accounting regulatory framework itself and the incongruity between the new accounting regulations and the prevailing socioeconomic conditions. Some possible solutions are discussed.*

INTRODUCTION

In 1992 in the People's Republic of China (PRC), the Ministry of Finance (MoF) (1992a, 1992b) promulgated the Enterprise Accounting Standard (EAS) and the General Financial Principles for Enterprises (GFPE). This action was a landmark in the recent accounting reform in that country. To meet both domestic and international demands for accounting information as a result of economic reforms, Anglo-American accounting principles were adapted and adopted in the EAS to replace the rigid Soviet accounting model practiced in China since 1949. The GFPE is closely related to the EAS. The former standardizes the financial practices of all enterprises; the latter standardizes the financial accounting and reporting by all enterprises. The two are the foundation of a new accounting and financial regulatory framework operative from July 1, 1993 (Chen & Tran, 1995).

The objective of this article is to identify and analyze two types of problems encountered in the PRC since the implementation of the EAS and GFPE in July 1993. One type exists within the new accounting regulatory framework. The other, more important prob-

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lem type arises from the incongruity between the new accounting standard(s) and the prevailing legal and socioeconomic conditions in the PRC. The latter is thought to be of concern to other countries experiencing or contemplating the importation of foreign accounting principles and standards. The article also discusses possible solutions.

In China, commercial activity is conducted through state-owned enterprises (SOEs), collectively owned enterprises, share-issuing enterprises, self-employed or owner-operated enterprises, joint ventures with foreign partners, and foreign corporations' subsidiaries registered in China. The enterprises referred to in this article are mainly SOEs and collectively owned enterprises which largely share the same problems. It also discusses SOEs that issue shares. Joint ventures and foreign enterprises are excluded from this article because their peculiar characteristics, such as tax incentives and other special regulations, have resulted in behavior and problems different from those of SOEs. Self-employed enterprises are not discussed here because they are small and accounting regulations may have little impact on them.

The article is organized as follows. The next section briefly compares the old and the new regulatory systems. The following section examines the problems existing in the new accounting regulatory framework. The next section highlights the incongruity between the new regulatory framework and conditions prevailing in the PRC. A few concluding remarks are made in the final section.

A COMPARISON OF THE OLD AND THE NEW ACCOUNTING REGULATORY SYSTEMS

Prior to July 1993, the accounting regulatory system in the PRC consisted of two major components: Accounting Law of the PRC enacted by the National People's Congress in 1985 and more than 40 accounting systems prescribed by various governmental authorities. The Accounting Law broadly stated the functions of accounting,[1] the organization of accounting work and the powers and duties of accounting personnel as well as their legal responsibilities. Detailed accounting methods and procedures at the operational level and financial reporting requirements were prescribed by different government agencies in the form of accounting systems to be followed by enterprises operating in different industries and having different forms of ownership. Each accounting system specified a chart of accounts, the items to be included in each account, and the format of the financial statements. Accounting entries for different types of transactions were illustrated.

The promulgation of the EAS foreshadowed the unification of accounting practices in the PRC and harmonization with international practices (Chen & Tran, 1995; Yang, 1994). Unification refers to the objective that all enterprises, regardless of the industries in which they operate or of the forms of their ownership, eventually follow the same body of accounting standards set by the MoF. Harmonization or internationalization means that the Chinese accounting standards will be brought into harmony with international accounting standards and practices, so that foreign investors can understand financial reports produced by PRC enterprises. The EAS has caused structural change to the accounting regulatory framework in the PRC. The current regulatory framework can be divided into three levels: the Accounting Law, accounting standards, and prescribed accounting systems as illustrated in Figure 1. The arrows in the figure indicate the direc-

tion of control. At the top level, the Accounting Law of the PRC, amended in December 1993, remains the major law with which all accounting standards and systems must comply. The 1993 amendment broadens the scope of application of the Law to cover all enterprises and organizations, whether or not owned or controlled by the state. At the second level, accounting standards are formulated in accordance with the Accounting Law and are applicable to all enterprises established within the PRC (EAS, Articles 1 and 2).

Accounting standards fall into two categories, fundamental and practical standards. The EAS is the fundamental standard that sets the basic assumptions[2] and general principles of accounting,[3] provides the definition, classification, recognition, and measurement rules for six elements of accounting,[4] and prescribes the basic format of financial statements.[5] The EAS is similar to the conceptual frameworks in the US and Australia but in a much cruder form (Chen & Tran, 1995). Comparisons of the EAS with Anglo-American accounting principles and the Financial Accounting Standards Board's conceptual framework have been made by Kazenski and Wong (1994), Leung (1995), Winkle, Huss, and Chen (1994), and Yang and Kao (1994). One striking difference is the limited application of the conservatism or prudence principle in the EAS, probably due to tax considerations.[6] For instance, inventories are valued at cost rather than at the lower of cost and net realizable value as in Anglo-American accounting principles.

Accounting methods applicable to particular accounting elements, transactions, and businesses, as well as the content of financial reports are the subject matter of practical standards, which we detail after describing the third level of the regulatory system.

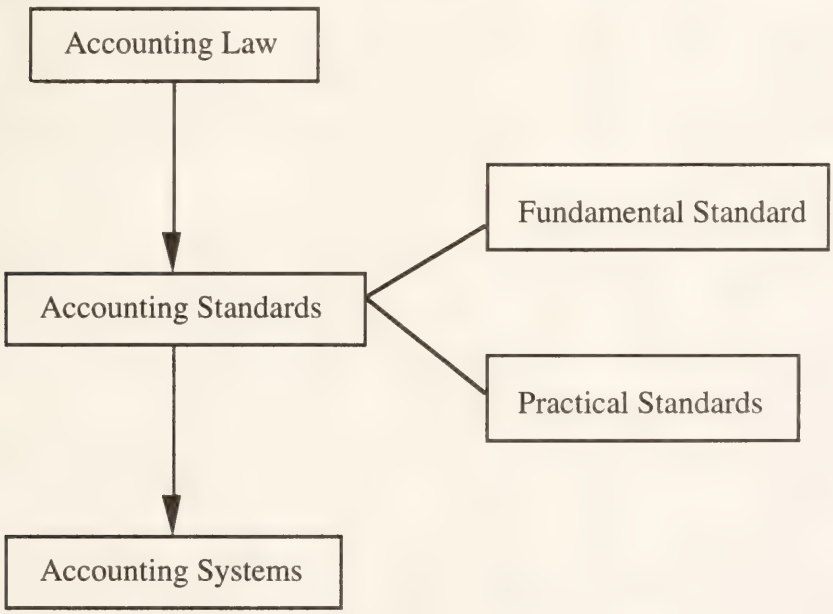

Figure 1. Current Accounting Regulatory Framework

Table 1. Currently Prescribed Accounting Systems

Systems
Industry-Based Systems
• Industrial Enterprise Accounting System
• Commercial Enterprise Accounting System
• Communication and Transportation Enterprise Accounting System
• Communication and Transportation (Railways) Enterprise Accounting System
• Communication and Transportation (Aviation) Enterprise Accounting System
• Communication and Transportation (Postal Services and Telecommunication) Enterprise Accounting System
• Hospitality Enterprise Accounting System
• Construction Enterprise Accounting System
• Real Estate Development Enterprise Accounting System
• Agricultural Enterprise Accounting System
• Financial Institution Accounting System
• Insurance Enterprise Accounting System
Ownership-Based Systems
• Foreign Economic Cooperation Enterprise Accounting System
• Experimental Share Capital Enterprise Accounting System

Following promulgation of the EAS, the 40-odd accounting systems were replaced by 12 industry-based and two ownership-based accounting systems as listed in Table 1. These systems are all prescribed by a single authority, the MoF, and are compatible with the EAS. According to the MoF's original plan, these 14 accounting systems are transitional measures only and will be replaced eventually by practical accounting standards.

The MoF's ambitious plan was to issue 32 practical accounting standards in three years and to have the corpus of accounting standards in place in 1996 (Ministry of Finance, 1994). By September 1996, as a result of the joint efforts of its accounting officials, PRC accounting academics, and overseas accounting experts,[7] the MoF, through its Division of Administration of Accounting Affairs, had released exposure drafts of 30 practical accounting standards. Table 2 lists the 30 exposure drafts. When the practical accounting standards are finalized, the EAS will be revised and reissued as the first of the new series of accounting standards.

Table 2. Practical Accounting Standards

Subject of Exposure Drafts Issued up to September 1996	
• Accounts payable	• Accounting for revenues
• Accounts receivable	• Foreign currency translation
• Inventories	• Accounting for income tax
• Investments	• Consolidated financial statements
• Capitalization of borrowing costs	• Accounting policies
• Balance sheet	• Post-balance date events
• Income statement	• Staff welfare
• Fixed assets	• Donations and government subsidies
• Intangible assets	• Accounting for contingencies
• Owners' equity	• Disclosure of related-party transactions
• Long-term contracts	• Liquidation
• Research and development	• Leasing
• Cash flow statement	• Futures
• Basic banking operations	• Business combinations
• Deferred assets	• Non-monetary transactions

PROBLEMS WITHIN THE CURRENT ACCOUNTING REGULATORY FRAMEWORK

The following examines two issues about the current accounting regulatory framework per se.

Confusions Caused by the Lack of Reference to Accounting Standards in the Accounting Law

Article 1 of the EAS states the following:

> This Standard is formulated in accordance with the Accounting Law of the People's Republic of China in order to meet the requirements of the development of China's socialist market economy, to seek unified accounting standards, and to safeguard the quality of accounting information.

Article 3 of the EAS further provides that "this Standard shall be followed in the formulation of enterprise accounting systems."

These two articles clearly state the role of accounting standards in the regulatory framework as illustrated in Figure 1. No reference to the EAS can be found in the Accounting Law, however, even though the Law was amended in 1993 after promulgation of the EAS. Furthermore, section 6 of the Accounting Law states that "national unified accounting systems are formulated by the finance department of the State Council [i.e., the MoF] according to this Law," and section 10 of the Law provides that "accounting evidence, books of account, accounting reports and other accounting information shall conform to the unified accounting systems prescribed by the State."

Section 12 further reinforces that the chart of accounts, books of account, vouchers, and bookkeeping procedures shall follow the rules of prescribed accounting systems. It appears that the Accounting Law still emphasizes the legal status of the currently prescribed 14 accounting systems. The EAS promulgated by the MoF has not received the recognition at law that was intended. Thus, the Accounting Law fails to reflect the current three-tier framework of accounting regulation and undermines the authority of the EAS as well as the credibility of the Law itself.

It is possible that the Accounting Law as amended is worded quite deliberately in recognition of the state of transition. Thus, by requiring adherence to the 14 accounting systems that, in turn, are to be compatible with the EAS, the Law also requires observance of the EAS. In practice, however, the continuing emphasis on the prescribed accounting systems arguably creates an impression that the current accounting reform does no more than change a few accounting items and accounting methods in the prescribed systems. Thus, accounting personnel tend to neglect the EAS. Apparently, this is not what the accounting reform intended to achieve.

To resolve this problem, the Accounting Law must be amended so that it clearly reflects the hierarchical relationship of the Law, the accounting standards, and the prescribed accounting systems. The authority of accounting standards must be imbedded unambiguously in the Law, and any sanctions for noncompliance must be specified in the Law.

Abolition of Prescribed Accounting Systems

One objective of setting unified accounting standards is to eliminate differences in accounting methods attributable to industry-specific features and different ownership forms. Unlike the prescribed accounting systems, the content of practical accounting standards, as indicated in the exposure drafts, has nothing to do with accounts and accounting procedures. This is consistent with international accounting standards. Whether the prescribed accounting systems should be abolished after the promulgation of the practical standards is an issue, however. There are three schools of thought on this matter.

The original MoF plan is to withdraw the prescribed accounting systems after the promulgation of practical standards. These are the arguments for the abolition of accounting systems:

- The accounting standards can provide guidance with sufficient details to guide accounting work at the operational level.
- It is not sensible to establish a body of accounting standards while subjecting the day-to-day accounting work to the detailed rules of prescribed accounting systems.
- Accounting practice in the PRC should be regulated by accounting standards that are compatible with international practice.

Others advocate preserving the accounting systems on the following grounds. First, different industries are subject to different operating regulations set by different government departments, so the ways they keep their books should be different. Second, practical accounting standards are unlikely to provide sufficient guidance at the operational level. Third, accounting personnel in the PRC are accustomed to following rigid rules; the great majority of them do not have the professional competence needed to exercise judgment in making accounting policy choices.

Between these two extremes are those who suggest that the prescribed accounting systems should remain in operation for a certain period of time after the promulgation of practical accounting standards (Yang, 1994). The argument is that the PRC is still in the process of economic reforms and, while that situation continues, the accounting regulatory system remains in a state of flux. New legislation regulating economic activities may have an impact on accounting, and accounting standards must be amended to suit the changing socioeconomic environment. Some flexibility has to be built into the new accounting standards, which cannot be highly prescriptive. Thus, with many issues being unresolved, in the short term, the prescribed accounting systems should not be abolished until the new body of accounting standards is demonstrably workable.

The last proposal appears to be the most pragmatic one. Judging from the current conditions in the PRC and the content of the exposure drafts of the 30 practical standards, abolishing the accounting systems in the short term seems unrealistic. When economic reforms further penetrate into different economic sectors, vertical integration and diversification will become more and more pervasive, and industrial boundaries will become less and less clear cut. At the same time, the quality of accounting personnel will have been improved as a result of education, training, and development. When this occurs, prescribed accounting systems will have completed their historical mission and can be removed.

INCONGRUITY BETWEEN THE ACCOUNTING STANDARDS AND THE PREVAILING SOCIOECONOMIC CONDITIONS

The PRC is in the throes of the rapid shift to a market economy and needs to establish institutions that support this basic goal. In the matter of accounting, the choice has been made to adopt ready-made Anglo-American accounting principles and standards, which offer, first, a quick solution to the problem of developing an accounting framework, and, second, the prospect of reasonable harmony with accounting practices in countries that China looks to as providers of capital and technology for its future economic development.

The adoption by one country of accounting standards developed in other places to suit different cultural and socioeconomic circumstances inevitably creates problems in the adopting country. Although China has adopted Anglo-American accounting with some amendments, there are major, observable incongruities between the EAS and the socioeconomic conditions and institutional arrangements that prevail in the PRC. The following discussion of five incongruities gives some indication of their size and widespread incidence. These incongruities involve the prevailing methods of management in SOEs, the ambiguous nature of property rights, the inadequate sanctions for legal infringements, the lack of a centralized social security system, and the supply of competent accounting personnel.

Modes of Enterprise Management and Agency Problems

Prior to the economic reforms, the PRC's economy was guided by central plans. Enterprises were closely supervised by government agencies and were similar to the cost centers or profit centers of a giant enterprise (the state). One major reform in the move toward a socialist market economy is to separate ownership and management of enterprises. Even though most enterprises are still owned by the state on behalf of the people, they are gradually being given more and more autonomy to make decisions in response to changing market conditions and to enhance economic efficiency.

The major modes of enterprise management prevailing in the PRC include business leasing,[8] business contracting,[9] and corporatization.[10] Business leasing applies only to small and medium-size SOEs due to limited personal resources available to pay the contracted rent. Business contracting was introduced in 1986 to provide incentives to the contractors to improve the efficiency of SOEs. In many instances, the contractors are the managers and the employees of the enterprise itself. By the end of 1987, about 80% of large and medium-size SOEs adopted the contracting mode of management (Wang, 1994). As of 1994, business contracting continued to be the most popular mode of management. Corporatization, or the share capital system as it is called in Chinese, is still experimental and is viewed by some as a threat to public ownership of the socialist state; however, it is likely that corporatization will be the main direction of future enterprise management reform (Yang, 1995). The remainder of this section focuses solely on business contracting, which is the most popular mode of management and presents, perhaps, the most EAS compliance problems.

The critical issue is that compliance with the EAS and the corresponding requirements in the prescribed accounting systems implies significant increase in expenses and reduction of profits for most SOEs (Chen & Tran, 1995). For instance, according to the EAS, financial and administrative expenses must be charged against revenues as period costs rather than being included in the cost of production and carried forward to future periods as part of the inventory costs. Other accounting methods that have a negative impact on reported profits include provision for bad debts and accelerated depreciation of fixed assets.

To avoid the adverse economic consequences of failure to achieve or exceed contracted targets, the contractors therefore have incentives not to comply with the EAS (Zhou, 1994). In a questionnaire survey, Liang, Tang, Tsang, and Yau (1995) found that only 7 of 24 surveyed enterprises in Guangdong province had provided for bad and doubtful debts even though most of the respondents agreed that making such a provision was an accepted accounting practice. A suggestion from those authors (which would require carefully set limits to discourage its exploitation) is that, in assessing whether the contractor of an SOE has met the agreed profit target, legitimate provision for bad debts be added back to profit so that the contractor is not penalized for customers' liquidity problems that are beyond his or her control.

In general, there are incentives for contractors to use creative accounting to defer recognition of expenses and losses in order to increase reported profits and their remunerations. The resultant hidden losses are passed on to the next contractor at the end of the contract period and ultimately to the state as the owner of the enterprise. Risk aversion problems and horizon problems also are particularly severe in the case of business contracting. Contractors are reluctant to invest in fixed assets, new technology, and employee training and development. They tend to overuse plant and machinery to maximize short-term profits and to neglect the maintenance of these assets. Such dysfunctional behaviors indicate the lack of effective control mechanisms available for the state (the principal) to monitor the performance of contractors (the agents) and explain the difficulties encountered in implementing accounting standards.

To resolve the myopic problems of business contracting, Zhong and Tang (1992) make three suggestions: the contracted targets include maintenance of and investment in fixed assets, development of new products, introduction of technology, and development of human resources; that the contract period be extended to 5 or even 10 years for medium and large-size enterprises; that profit retention ratio be increased; and that the audit function be strengthened. However, so long as a contractor is not the owner of the enterprise, agency problems exist (Jensen & Meckling, 1976). There are incentives for contractors to behave in a manner contrary to the interests of the owner because they do not bear the full cost of the dysfunctional behavior.

Undelineated Property Rights

The state owns many enterprises. Modes of management such as business contracting are the ways to separate management from ownership. Because of public ownership, property rights have never been properly delineated in the PRC. In theory, the assets of SOEs

belong to the state or all the people of the PRC, but in practice no proprietorial group or individual has regard for the conservation of SOE assets (Zhao, 1994).

Before the economic reforms, acquisition of fixed (i.e., noncurrent) assets by enterprises was financed by specific funds appropriated by the state. During the period 1983 to 1985, in order to exercise better control over the construction of infrastructures, appropriation of funds was turned into loan offers to enterprises (Zhou, 1994). Enterprises were required to pay periodical interest to the state and to repay the loans, but the fixed assets remain the property of the state, unlike the situation for private enterprises in a market economy. Hence, enterprises are reluctant to charge interest expenses against revenues because of the negative impact on the bottom line. Instead, they capitalize interest expenses as part of the cost of fixed assets and recognition of interest expenses is deferred. This is yet another instance of noncompliance with the EAS.

According to Yang (1995), the focus of economic reform in 1995 was the reform of SOEs. Small SOEs with a history of losses and liabilities exceeding assets, and of using obsolete technology and producing goods for a dwindling market will be closed. Other small SOEs may be sold by auction, leased, or corporatized. Medium and large enterprises will be converted into corporations whose shares may be held by the state, other legal persons, individuals including employees, and foreign investors.

Corporatization will help to delineate property rights. Once an SOE has been converted into a share capital enterprise, the state no longer has direct control over the enterprise's assets. The state can exercise indirect control only in the capacity of a major shareholder through the board of directors. The enterprise as a legal person has rights to possession, utilization, income and disposal of the assets under its control. Managers and employees can also become shareholders through management compensation plans and employee share acquisition schemes. If they have a stake in the success and failure of the enterprise, the enterprise can alleviate risk aversion and horizon problems and reduce agency costs. It is hoped that corporatization, institution of a legal system that protects property rights and facilitates their transfers, and development of a management labor market will create an environment conducive to compliance with accounting standards.

Lack of Appropriate Sanctions in the Legal System

The previously mentioned failure of the Accounting Law to refer to the EAS raises doubts about its enforcement. Determining how the sanctions that the Law provides could be placed on those who violate the EAS is difficult. Even the sanctions specified for breach of the Law itself are vague and imprecise. Chapter 5 of the Accounting Law provides that the manager in charge and the accounting personnel of an enterprise or an organization who are in breach of the Law shall be subject to administrative sanction or shall be prosecuted if the infringement amounts to a crime. No penalties are actually specified in the Law.

Another more urgent problem concerns debt recovery. As reported in the People's Daily (July 11, 1995, p. 1), the total assets and liabilities of the 100 (presumably the largest) SOEs now experimenting with "modern management practices" are respectively renminbi (RMB) 265 billion and RMB 181 billion, giving a ratio of liabilities to assets of 67.6%. The ratio is likely to be higher for other SOEs. A major part of these liabilities are

accounts payable to other SOEs. Enterprises currently tend to defer settlement of accounts payable for at least two possible reasons. First, many enterprises consider accounts payable to be a cheap source of finance and try to defer settlement for as long as possible (Wang, 1995). This results in chains of trade debts that are difficult to collect. Second, many SOEs have losses and liquidity problems. As reported by the National Statistical Bureau in 1995, more than 40% of the 400,000 large and medium-size SOEs incurred losses at the end of 1994 (Liang et al., 1995). These chains of uncollectible debts may stifle economic activities.

For instance, in October 1994 the total accounts receivable for major coal mining enterprises was RMB 29.3 billion, up from RMB 9.2 billion in early 1993 (Wang, 1995). Many of their customers are other SOEs that have their own uncollectible debts. Coal mining enterprises experienced difficulties in paying wages to employees and in maintaining normal production. As a result, in November 1994 they implemented a policy to deliver coal only to customers who settle their accounts on delivery.

"Chain debts" or "triangular debts," as they are called in the PRC, were considered by many SOEs to be the most serious issue (Liang et al., 1995). It is difficult to enforce recovery of debts through legal channels because in the final analysis, both the creditors and debtors are parts of the same entity, namely the state. This suggests that SOEs must be made separate legal entities and some effective sanctions against debtors in default must be instituted in the legal system to ensure smooth functioning of the socialist market economy.

Even if adequate formal sanctions for infringements of relevant laws exist or are introduced, the question of intent to enforce the laws remains. The issue is that in the PRC, social control or regulation is achieved more through administrative powers and machinery than through the legal system. It is difficult to envisage how the notions of property, property rights, and efficiency, as well as the mechanisms to foster them such as markets and standards can take root in a society that follows executive rule instead of the rule of law.

Lack of a Central Social Security System

For decades, SOEs have been responsible for providing health services and other welfare facilities such as housing, schools for children of employees, and child care facilities. They also have been responsible for paying pensions and providing medical and housing benefits to retired employees. Because SOEs were simply cost or profit centers of the centrally planned giant enterprise that composed the state economy as a whole, using them to provide social welfare was considered an effective and efficient way to deliver services such as health, education, and housing.

According to Zhao (1994), the number of retirees who depend on SOEs for their living is estimated to be about 22% of the total number of working employees. In some industries, such as spinning and weaving, the percentage of retirees can be as high as 40%. Some enterprises have started contributing to health funds and superannuation funds, but the majority of SOEs are overwhelmed by the ever increasing burden of commitments to retired employees. The crux of the issue is the absence of a central social security system.

Before 1993, an SOE could charge an amount equal to 11% of total wages to production cost and set the amount aside as "employee welfare fund" to provide welfare to employees. In addition, 5% to 10% of periodic profit was also appropriated to the fund. The new accounting systems allow SOEs to charge up to 14% of total wages above the bottom line as employee welfare expenses. The portion of the employee welfare fund that is appropriated from profits, however, can now be used only for construction of employee welfare facilities and is no longer available to meet recurring expenses. Even though the total amount available for employee welfare appears to have been increased, the amount available for recurring welfare expenditure (mainly medical expenses) is actually reduced. The requirements have further deteriorated the position of enterprises with deficits in their medical expense budget and have caused resistance to the new accounting systems.

Suggestions have been made that after conversion of SOEs into corporations, the government sell part of its shareholdings and use the proceeds to set up a central social security system that includes payment of benefits to the unemployed and to retirees (Zhao, 1994). To relieve SOEs of the undue burden of social welfare provision that was placed on them for historical reasons, the government could also take over hospitals, clinics, schools, and universities currently run by large SOEs for the welfare of employees. These suggestions appear to be feasible solutions that deserve serious consideration by the PRC government.

Lack of Competent Accounting Personnel

A serious impediment encountered in the current accounting reform is the lack of competent accounting personnel to implement the new accounting standards. The problem may be further aggravated by the lack of a unified accounting profession (Macve & Liu, 1995). Until the 1970s, as a consequence of practicing a centrally planned economy for a few decades and of the traditional Chinese culture of "respecting the peasants and despising the merchants," accounting workers were not held in high regard in society compared with their Western counterparts. Accounting education has never been well developed in the PRC and was particularly disrupted by the Cultural Revolution disturbances.

The economic reforms created huge demands for accounting workers. Accounting education at the tertiary level was resurrected. By the mid-1980s, most tertiary education institutions offered accounting professional courses. In 1993, there were 421 universities and colleges offering accounting professional courses with 41,400 new students enrolled each year. Adult professional accounting courses were also offered by 459 tertiary institutions with 140,000 adult students enrolled each year. About 1,000 colleges at the secondary level offered accounting courses to 127,800 students each year. These figures represented an approximate doubling of accounting education since the late 1980s (Yu, 1995).

Despite the rapid expansion of accounting education, the overall quality of accounting personnel remains questionable and the supply is still insufficient to meet demands. At present, the PRC has approximately 10 million accounting workers. Less than 10% of this workforce has received accounting education at the tertiary level; 70% of them have never received any formal accounting training (Lu, 1995).

Some problems also exist in the delivery of accounting education in the PRC. Too much emphasis has been placed on financial accounting, and course design is still largely based on prescribed accounting systems. Also, in the rush to offer accounting courses, some education institutions have enrolled many more students than their facilities can properly accommodate, resulting in marked variations in the quality of accounting education across the country. Thus, accounting education reform is necessary to match the ongoing economic and accounting reforms. The focus of financial accounting must be shifted to accounting principles and standards. Additionally, management accounting, finance, taxation, auditing, information technology, and business law should be emphasized.

CONCLUDING REMARKS

The EAS and the forthcoming practical accounting standards are largely modeled on Anglo-American accounting principles and standards, although some adaptations to suit the PRC's own socioeconomic conditions can also be discerned. Because the Anglo-American accounting principles and standards have been developed over a long period of time in a market economy based on private ownership, they cannot be successfully transplanted overnight to the PRC for the following reasons.

First, under a public ownership regime, property rights in the PRC have never been properly delineated. Without properly delineating the right to use property, the right to income from the property and the right to transfer property controlled by a person or an enterprise in the form of a legal person, accounting elements such as assets, liabilities, and equity cannot be clearly delineated. For instance, is a debt owned by one SOE to another really a legally enforceable debt and hence a liability of one party and an asset of another? Are an SOE's obligations to its retired employees liabilities of the enterprise or the state? Second, the PRC's socialist market economy is at an early stage of development. Various economic and commercial laws needed to ensure orderly functioning of a market economy have not been legislated or exist only in a rudimentary form. It may take a long time before these laws are introduced, coordinated, and refined to establish a comprehensive legal system that is congenial to compliance with accounting standards.

Third, unlike accounting evolution in countries such as Australia, the United Kingdom and the US, the current accounting reform in the PRC appears to be a revolution. It is unrealistic to expect that massive training within a short period of time can create a pool of competent accounting personnel sufficient to implement the new accounting standards.

In addition, the UK and the US had a wide range of accounting practices. Setting accounting standards by the professions in those countries was a self-discipline intended to reduce accounting policy choices and to standardize the accounting practices. In the PRC the reverse is true; it began with a set of rigid accounting systems with charts of accounts and accounting procedures prescribed by the government for different types of enterprises. The new accounting standards set by the government allow flexibility and choices. Therefore, it may take time before accounting personnel can adapt to the new environment.

Existence of these fundamental problems does not mean that the accounting reform is necessarily in the wrong direction. It may indicate that the accounting reform is ahead of

its time and ahead of the reforms in the economic, social, and legal systems. Reforms in other areas may take time to catch up.

This article highlights the problems that will be encountered in transplanting Anglo-American accounting principles and standards to any country with a socioeconomic and legal environment markedly different from the environment in which these principles have been developed. The problems identified and the solutions proposed in this article have the potential to provide additional input for policymaking in China. They may also be relevant to countries in similar situations, such as the independent states of the former Soviet Union and some developing countries. The transition from a centrally planned economy to a socialist market economy takes time. Therefore, it is hoped that this article can promote understanding and forbearance of investors and trading partners in Western countries. Perhaps through provision of technical assistance and exchange of academics and expertise, the transition process can be shortened and smoothed.

NOTES

1. According to the Accounting Law, the basic functions of accounting are to measure and monitor economic activities.
2. The four basic assumptions are accounting entity, going concern, accounting period, and unit of measurement.
3. The general principles consist of six qualitative characteristics (truth, relevance, comparability, consistency, timeliness, and understandability) and six accounting principles (matching, accruals, conservatism or prudence, historical cost, distinction of capital and revenue expenditure, and materiality.)
4. The six accounting elements are assets, liabilities, owners' equity, revenues, expenses, and profits.
5. The three financial statements are the balance sheet, income statement, and statement of changes in financial position or cash flow statement. Following the international trend of switching from the statement of changes in financial position to the cash flow statement, it is expected that only the cash flow statement will be prescribed when the EAS is revised. An exposure draft of the accounting standard for cash flow statement was issued in April 1995.
6. For the time being, tax law in the PRC largely relies on accounting rules to compute the tax base, but there are indications that tax rules will be separated from accounting rules eventually.
7. Deloitte Touche Tohmatsu International has been involved in the PRC's accounting standard setting process as part of the World Bank's joint technical assistance project.
8. Under a business lease, the lessee(s) acquires the use of an SOE's facility, becomes entitled to the income it produces for the duration of the lease, and agrees to pay a contracted rent to the state whether or not he or she makes a profit.
9. The word contract simply refers here to an agreement or undertaking to achieve a certain target and is not necessarily a legally enforceable contract as in the Western notion. Under a one to three-year business contract, the contractor(s) of a SOE undertakes to achieve a certain production target, profit or loss target, loan repayment, and/or other targets. A contractor who fails to meet the agreed targets is liable to financial penalties (e.g., reduced remunerations) and the contract may be terminated. If operating results exceed the agreed targets, the excess profit is divided between the state and the enterprise, and the contractor of the enterprise is entitled to special bonuses (Tang, Chow, & Cooper, 1994, Chapter 6).
10. An experiment that involves conversion of some state owned and collectively owned enterprises into legal persons with share capital contributed by different parties commenced in 1984. In the case of SOEs, the investment by the state is converted into "state shares." "Individual shares" are issued to the employees and the public to raise additional funds. In the case

of collectively owned enterprises, "collective shares" are issued to employees according to their seniority and position in the enterprises. Collective shares are not freely transferable. If an employee leaves the enterprise, his or her shares are returned to the enterprise. Issue of B-shares to foreign investors commenced in 1991. Subscriptions to B-shares and dividends are paid in foreign currency (Tang et al., 1994, Chapter 5).

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Social Financial Reporting in India: A Case

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Key Words: Human resource accounting; Social balance sheet; Social income statement; Value added statement

Abstract: *Social accounting in company annual reports within the framework of a socialistic pattern of industrial development is discussed. A public sector company (Steel Authority of India Limited) is examined with regard to the type, form, and content of social financial disclosures. Students are asked several questions about social accounting in India and in general. This case can be used in an Accounting Theory, Issues, or International course at the undergraduate or graduate level.*

I. INTRODUCTION

This is a case that applies social and human resource accounting concepts from the late 1960s and early 1970s to current annual reports in India. Today's academics, many of whom were accounting students at that time, may well be astonished to see that these concepts are actually applied today by public sector companies in India. Academics, however, need to take a more international perspective and realize that India is interested in social financial reporting. In addition, few U.S. students are familiar with Social Reporting Statements. They need the exposure as part of their broad education in accounting. The case was originally prepared by a graduate student from India, who was able to obtain the annual report and other information used in this analysis.

Although there has been much discussion in the literature (Bloom & Heymann, 1986; Gray, Owen, & Maunders, 1991) on the advantages of social responsibility accounting, few countries/firms have wholeheartedly grasped the concept. India, a developing country, ironically, is an exception, providing several examples of social accounting, especially by public sector companies.

This case examines social accounting in India from the viewpoint of a public sector company, the Steel Authority of India Limited (SAIL), one of India's largest producers of steel. SAIL has four wholly owned subsidiaries. In 1993, sales amounted to Rs.10,175

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Table 1. SAIL—1990, p. 99 Annual Report

Steel Authority of India Limited adopts this statement of objectives, based on the important national goal of encouraging and ensuring rapid economic growth through efficient production and supply of high quality iron and steel goods and allied products at reasonable prices.

Premises

The Objectives stem from the following major premises:

1. As a public undertaking accountable to the People of India, the Company will strive to serve the national interest in discharging its responsibilities and will constantly seek to deserve and enjoy the highest measure of public trust and esteem.
2. In conducting its business with honesty and integrity, the Company will also endeavour to function as a profitable enterprise working towards the achievement of a self-reliant and self-generating economy.
3. The Company will operate in the highly specialised fields of iron and steel and allied manufacture. It will pioneer in new fields of applied science, through the pooling of the finest scientific and engineering talents in an environment which will facilitate the proper utilisation of their knowledge, interest and skill.
4. The operations of the Company will be led by a Management group which will command the respect of the whole organisation for its ability, integrity, sense of justice and its human approach to problems.
5. A high rate of economic growth sustained over a long period is the essential prerequisite for achieving a rising standard of living for the people. With this in view and within the limits of resources it can generate, the Company will seek to increase investment in basic production capacities and economic and social overheads so as to yield benefits, now and in the future.
6. The Company will ensure good corporate health by adopting sound management practices, including the establishment and maintenance of a dynamic organisational structure suited to meet present and future Company needs; long range planning; product diversification; strong financial control; and comprehensive research and development.

Towards People

As an autonomous body, Steel Authority of India Limited will be accountable, to the People of India through Parliament and Government, for running a highly competent, business minded, technically-oriented enterprise, engaging in manufacture, research and development to meet the needs of the domestic as well as world markets for iron, steel and allied products.

The Company will endeavour to earn a fair return on the investment to maximise production and to institute adequate cost control. It will be managed with such competence and skill as will inspire confidence and pride in the minds of the people.

Towards Employees

The Company will seek to be a model employer by—

(a) establishing and maintaining a dynamic organisational structure suited to meet present and future Company needs;

(b) attracting competent personnel with growth potential, and developing their maximum capabilities in a working environment through the provision of opportunitites by advancement and other incentives;

(c) developing and sustaining a favourable employee attitude and obtaining maximum contribution from employees through stable employment, adequate wages commensurate with Company's capacity to pay and maintaining good and safe working conditions and job satisfaction;

(d) establishing a system for redressal of employees' grievances in the shortest possible time and at the lowest possible step;

(e) providing training facilities, internal and external, and other opportunities for self-development in their current job and for advancement.

In India, there are twelve companies, mostly in the public sector, that publish human resources accounts in their annual reports. (Rao, 1993, p. 348) In some cases, monetary values are assigned to human resources. (Rao, 1993, p. 348)

SAIL, in particular, computes the long-run, anticipated earnings of employees and discounts them to present value, using an interest rate of 15 percent (Table 2). Economic valuation of human capital is based on a model set forth by Lev and Schwartz (1971),

which uses an individual's future earnings as a surrogate measure of his/her economic value. It is assumed that employees will remain in the organization until retirement or death. That assumption has been criticized on the grounds that employees leave the enterprise for reasons other than death or retirement — for example, to return to school, to join another organization. To refine that model, Flamholtz (1985) factored in the probability of mobility and separation and called it "expected realizable value." The Lev/Schwartz/Flamholtz framework does not, however, consider the attitudes or motivation of the staff.

In the case of SAIL, it is debatable whether the published human resource accounting figures serve as a management tool in manpower planning. "In the Indian context,...in the public sector, the payments made to the employees are not directly linked to productivity." (Rao, 1993, p. 348) In most cases, when an individual joins a public sector undertaking, he stays with the organization until retirement. Although job-hopping is becoming more

Table 2. Human Resources Accounts Human Assets—A Long-Term Investment

Intellectual capital is one of the most valuable assets of any organisation. It is the key to an organisation's success. Development of human resources facilitates an organisation to meet the challenges of the ever-changing business scenario. In the Indian context, this has become more imperative in view of the new economic policies and business realities. SAIL is investing not only on modernisation of its technologies and equipments but also on human resources development through training, etc. to enhance the potential and optimal utilisation. The potential of our human resource is being harnessed to the maximum extent by developing and utilising them in an optimum way keeping in view the age and professional profile.

For evaluation of human assets, SAIL has adopted the "Economic Valuation Method" and the basic model as conceived by LEV and SCHWARTZ incorporating certin refinements as suggested by ERIC FLAMHOLTZ and JAGGI and LAU. Minor modifications have been made to suit special requirements of SAIL. The human assets valuation is done by ascertaining the future anticipated earnings and discounting the same to their present worth. Discounting has been done at 15%.

The broad distribution of Human Assets of SAIL is as under:

Human Resources - March, 1993

	Below 25	*25–35*	*36–45*	*46–50*	*Over 50*	*Total (Numbers)*
Managers	—	308	2696	1869	2203	7076
Executives	1046	2894	2516	2098	4051	12605
Supervisors	392	3640	21470	19059	26404	70965
Clerical Staff	166	1336	1866	906	599	4873
Skilled Workers	2034	12094	24605	12780	12894	64407
Semi-skilled/ unskilled workers	4654	8980	8855	2583	2107	27179
TOTAL	8292	29252	62008	39295	48258	187105

Age Groups

	Below 25	*25–35*	*36–45*	*46–50*	*Over 50*	*Total (Rupees in Crores)*
Managers	—	68.27	717.43	288.45	151.44	1225.59
Executives	263.69	841.71	541.45	242.90	286.94	2176.69
Supervisors	85.64	648.39	3085.75	1562.71	909.60	6292.09
Clerical Staff	18.02	200.95	238.72	71.20	25.24	554.13
Skilled Workers	248.58	1835.37	2708.89	793.47	440.86	6027.17
Semi-skilled/ unskilled workers	653.10	1159.94	835.64	144.37	46.41	2839.46
TOTAL	1269.03	4754.63	8127.88	3103.10	1860.49	19115.13

common today than in the past, on the average, employees tend to stay with the same organization as compared to their U.S. counterparts. Since they are government-owned, public sector companies virtually guarantee job security. Human resources accounts as disclosed in Table 2 serve essentially as a statement of social accountability to the public, and therefore do not reflect actual present values.

Private sector companies in India generally provide no more detail than a brief verbal description of their activities in the area of human resources, often touching on staff training and employee recognition in general terms.

Social Accounts

The justification for a company's publication of formal social accounts — the social balance sheet and the social income statement — is that "a corporation today is seen not just as an economic organization but as a social force with duties not only towards its employees and others on whom it subsists, but even towards the society at large." (Rajamani, 1994)

In India, legal requirements pertaining to corporate responsibility are contained in several provisions of the Companies Act, 1956, and the Environment Protection Act (EPA), 1986. (Rajamani, 1994)

The Companies Act empowers the Central Government to regulate companies in the areas of:

(a) Amalgamation and Takeovers (Sects. 391-396 of the Companies Act). To satisfy the concept of public interest, the scheme of amalgamation should be for the benefit of the shareholders, the employees, and the public at large.
(b) Restriction on transfer of shares and debentures (Sect. 250 (4) of the Companies Act). The Central Government can impose restrictions on transfer of shares when it is in the public interest to do so.
(c) Mismanagement (Sect. 398 of the Companies Act). If the affairs of a company are being carried on in a manner prejudicial to the interests of the company or the public interest, a member can apply to the Court for prevention thereof.

There are provisions for intervention of the Central Government even in the areas of dividend payments, monopolies and restrictive trade practices.

In all of the foregoing, the "public interest" concept is vague and subjective, and the government can act as it pleases in dealing with private companies. The courts have tried to interpret "public interest" in cases involving private companies versus the central government, public sector companies, or the state-regulated banks, but many gray areas remain.

In the field of environmental responsibility, the Environment Protection Act, 1986, prescribes standards and penalties for violation of the law regarding the discharge or emission of any pollutants. Despite the fact that corporate social responsibility is contained within the provisions of the law, there are no accounting standards that mandate the form and content of pollution disclosures and environmental protection in the financial statements. As a consequence, companies, private and public, tend to disclose only the positive impact of their activities on the environment.

SAIL, in its balance sheet, accrues Rs.12,334 thousand ($400,000 U.S.) as a liability for pollution control under the heading of Provisions (Table 3). However, no explanation of this is provided in the Notes. In the Directors' Report (SAIL, 1993), it is stated in general terms that "continuous efforts are being made by the company to generate awareness for environment management and pollution control with the objective of not only complying with government legislations, but also ensuring a clean and safe environment."

In the U.S., under the National Environment Policy Act of 1969 the Securities and Exchange Commission (SEC) is required to consider environmental protection as a factor in exercising its rule-making authority under the Securities Acts of 1933 and 1934. In light of this mandate, the SEC has issued several releases alerting public companies of their legal obligation to disclose environmental information that would be material to investors and shareholders.

Table 3. Schedules

1.15 PROVISIONS	*As of 31st March, 1993*		*As of 31st March, 1992*	
Gratuity		42978.02		41108.10*
Middlings stocks		402.57		195.52
Taxation				
Opening Balance	—		5387.36	
Add: Provision during the year	---		157.73	—
		—	5545.09	
Less: Amount paid during the year	—	—	5545.09	—
Proposed dividend		7971.78		7963.02
Pollution Control		123.34		—
Others		16654.37		14507.48
		68130.08		63774.12

1.16 MISCELLANEOUS EXPENDITURE (To the extent not written off or adjusted)

Balance as at 31st March 1992	*Additions during the year*	*Total*	*Amount Charged Off/ transferred during the year*	*Balance as at 31st March 1993*	
(i) Development Expenditure					
(a) On Mines	654.09	513.91	1168.00	362.80	805.20
(b) On New Projects	337.15	50.46	387.61	134.81	252.80
Total (i)	991.24	564.37	1555.61	497.61	1058.00
(ii) Deferred Revenue Expenditure					
(a) Voluntary Retirement Compensation	5444.21	4048.12	9492.33	2772.85	6719.48
(b) Others	2212.98	972.76	3185.74	874.57	2311.17
Total (ii)	7657.19	5020.88	12678.07	3647.42	9030.65
Total (i+ii)	8648.43	5585.25	14233.68	4145.03	10088.65
Previous year	6752.96	6078.26	12831.22	4182.79	8648.43

	Current Year	Previous Year
Charged Off to:		
Raw Material produced	**614.34**	577.05
Other Expenses & Provisions	**3530.69**	3144.02
Prior Period Adjustment		461.72
Totals	**4145.03**	4182.79

SAIL provides a Social Income Statement and Social Balance Sheet in its annual reports (Tables 4 and 5). The format is similar to that pioneered by Abt Associates, Inc., a U.S. management consulting firm specializing in social and health care issues, in its 1971 corporate annual report. Abt reflected in monetary terms the social benefits and costs to employees, the community, and the general public. In describing his company's system of social accounting, Abt's president stated: "Some of the data is only estimated, but no more than the estimated worth of inventories or the depreciation of assets in financial statements." (Flamholtz, 1985)

SAIL's Social Income Statement measures *social benefits to employees* in terms of housing allowances, education, training, recreation, medical facilities, and so on, while *social costs to employees* are shown in terms of layoffs and the opportunity cost of total time worked. *Social Benefits to the community* include local taxes paid, environmental improvements, generation of business and jobs, while *social costs to the community* are quantified as cost of living increases. *Social Benefits to the public* comprise central and state taxes paid, foreign exchange earned/saved, and research and development efforts as a contribution to knowledge. *Social costs to the public* are central and state services consumed and expenditures on foreign exchange. Social Income is computed after reflecting the respective benefits and costs. It is intriguing how SAIL came up with monetary values for its social benefit items such as "business generation for community" and "generation of job potential." One can only wonder whether the published figures are contrived to highlight the positive impact of government activities and act as a favorable public relations tool. SAIL's social net income for the years 1989 through 1992 has steadily

Table 4. 1993 Annual Report

SAIL

Social Accounts

A business organization, apart from ensuring fair rate of return on investments to its shareholders, has to fulfil its social responsibilities to its other stakeholders, i.e., employees, suppliers, consumers and the general public including local community in such a way that both the society and the organization are benefited. The concept of social accounting involves, in monetary terms, the impact of objectives, policies and procedures of a commerical organisation on different sections of society as compared to the benefits derived by the society.

SAIL is conscious of its social responsibility. SAIL has continued to focus on training for personnel development, implement Government directions in reservation of posts for socially and economically disadvantaged members of society, giving appropriate priority to provision of housing, medical and other facilities to employees, etc. The Company has not lost sight of its responsibility towards weaker and backward sections of the community around the steel plants. Community development programmes include construction of community centers, schemes for providing drinking and irrigation water, mobile dispensaries, facilities for adult education, etc. Environment Management has been identified as a major thrust area in SAIL. Anti-pollution measures have been undertaken through programmes for controlling air-pollution, water contamination, disposal of solid wastes, etc. Due attention is also given to development of ancillary units by making available benefits of Company's research and technical know-how to achieve better quality of indigenous production and services.

In preparing social accounts, SAIL has adopted the approach suggested by ABT Associates, USA with suitable modification to suit the requirement of SAIL. The Social Income Statement and the Balance Sheet show the efforts made by SAIL in fulfilling its social objectives and the responsibilities.

Per Capita Social Benefits to employees during 1992-93 excluding Salaries and Wages amounted to Rs.35867 based on employee strength for the year. Benefits in the form of job/business generation amounted to Rs.5403.89 crores representing 53 per cent of the Company's turnover. The total net social benefits amounted to Rs.6622.97 crores representing 65 per cent of the turnover of the Company.

Table 5. Social Accounts

Social Income Statement	*1992-93*
1. Social Benefits & Costs to Employees	(Rupees in crores)
A. Social Benefits to Employees	
(a) Medical & Hospital Facilities	69.19
(b) Township & Housing Facilities including concessional electricity & water supply.	143.59
(c) Education facilities.	40.15
(d) Canteen facilities.	13.46
(e) Recreational & Cultural Activities.	4.02
(f) Concessional transport.	16.27
(g) Training & Development.	33.07
(h) Holiday benefits.	152.80
(i) Retirement benefits.	129.80
(j) Bonus & Other benefits.	68.75
Total Social Benefits to Employees	671.10
B. Social Costs to Employees	
(a) Lay off and involuntary termination.	0.27
(b) Extra hours worked by Executives but not paid.	10.65
Total Social Costs to Employees	10.92
Net Social Income to Employees	660.18
2. Social Benefits & Costs to Community	
A. Social Benefits to Community	
(a) Taxes paid to local authorities	3.71
(b) Environmental improvements	7.27
(c) Welfare Activity for the Community	4.01
(d) Generation of Job Potential	1176.68
(e) Business Generation for Community	2418.58
Total social benefits to community	3610.25
B. Social Costs to Community	
(a) Increase in cost of living in the vicinity of Steel Plants	356.23
Total Social Costs to Community	356.23
Net Social Income to Community	3254.02
3. Social Benefits and Costs to General Public	
A. Social Benefits to General Public	
(a) Taxes and Duties-Central	2186.67
(b) Taxes and Duties-State	248.80
(c) Business Generation	1808.63
(d) Foreign Exchange-Earned	250.76
(e) Foreign Exchange-Saved	72.70
(f) Research and Development Efforts	44.66
Total Social Costs to General Public	4612.22
B. Social Costs to General Public	
(a) Central services and facilities consumed.	20.98
(b) State services and facilities consumed.	401.68
(c) Expenditure in foreign exchange.	1480.79
Total Social Costs to General Public	1903.45
Net Social Income to General Public	2708.77
Net Social Income (1+2+3)	6622.97

Social Balance Sheet as on 31ST March, 1993

	As on 31.3.93
Liabilities	(Rupees in crores)
Organization Equity	530.56
Social Equity (Employees Contribution)	19115.13
	19645.69
Assets	
Social Capital Investments	
Land	11.76
Residential & Other Buildings	384.31
Roads & Bridges	29.18
Water Supply & Sewerage	41.44
Furniture & Fittings	3.68
Other Equipments	60.19
Human Resources	19115.13

increased from Rs.3,297 crores ($10.6 billion U.S. in 1989) to Rs.6,623 crores ($21.4 billion U.S. in 1993). As the social accounts are not audited, management has the latitude to disclose these items anyway it desires.

Since social disclosures are not mandated, most private companies do not publish formal social accounts. However, a number of them do engage in altruistic behavior, a common example being extensive village adoption schemes to improve literacy, medical facilities, infrastructure and vocational training. (Rajamani, 1994) "These companies spend at least 2 to 5 percent of their considerable turnover (sales) on such projects and have a separate fleet of managers dealing with these projects." (Rajamani, 1994) While public sector enterprises record social benefits and costs in formalized statements and tout the government's socialistic welfare goals, private companies also engage in socially responsible activities to garner goodwill and thus economic benefit.

Another form of social disclosure, the value added concept is that a company is not in business solely to generate income, but more importantly to distribute its value added, i.e., sales minus cost of materials and services consumed to its various stakeholders: (a) employees (the company's "off-the-balance sheet" asset) in the form of wages; (b) creditors — interest; (c) stockholders — dividends; (d) governmental agencies — taxes; and (e) the company itself — retained earnings. The value added concept is viewed as a management tool to measure corporate performance. It is defined as: Economic value added = sales -operating expenses - cost of financing assets on the balance sheet (cost of capital). Salaries and bonuses in various companies are based on value added rather than on ROI, sales goals, or budget based percentages.

Table 6. Value Added Statement

For the year	*1992-93*		*1991-92*		*1990-91*	
Value of Own Production		**11282.61**		10155.90		8421.31
Value of Imported Steel		—		(0.01)		22.00
Other Revenues/Adjustments		**229.40**		127.08		251.92
		11582.01		10282.97		8695.23
Less: Cost of Direct Materials	**3425.03**		3070.34		2526.26	
Stores & Spares	**1532.70**		1371.45		1167.59	
Power & Fuel	**779.64**		687.98		587.68	
Excise Duty	**1054.68**		760.88		626.67	
Freight Outward	**484.83**		575.41		537.71	
Contribution to SDF	**301.42**		313.44		296.56	
Contribution to JPC Funds	**167.61**	**7746.01**	166.36	6945.86	185.84	5928.31
Value Added		**3836.00**		3337.11		2766.92
Value Applied						
Establishment Cost		**1287.15**		1202.85		1007.47
Other Operating Costs		**749.22**		630.84		549.22
Corporate Income Tax		—		1.58		3.57
Financing Cost						
Government Loans/SDF	**179.55**		183.50		174.61	
Banks	**326.63**		116.56		36.03	
Fixed Deposits-Public	**74.18**		104.34		103.91	
Other Loans	**68.92**	**649.28**	58.70	463.10	40.38	354.93
Retained in Business						
Depreciation		**726.95**		673.02		607.04
Profit for the year	**423.40**	**1150.35**	365.72	1038.74	244.69	851.73
		3836.00		3337.11		2766.92

In contrast to the income statement, the value added statement does not show the cost of goods sold, but rather the cost of materials and services consumed. For a manufacturing enterprise, in particular, factory wages in the value added statement are not part of cost of goods sold but rather represent one allocation of the value added — i.e., to employees. Furthermore, dividends declared to stockholders represents another allocation of value added (Tables 4, 5 and 6).

Value added statements foster morale on the part of employees because they are considered an important part of the enterprise in the financial reports, and they provide useful information to help employees negotiate labor contracts. On the negative side, value added statements can be misleading if shareholders fail to recognize that increasing value added does not necessarily mean increasing shareholder wealth. (Belkaoui, 1994, 256-258).

IV. CONCLUSION

Social disclosures in Indian company annual reports are largely derived from the country's socialistic philosophy of economic development. The public sector undertaking, SAIL, espouses social gain rather than profit maximization, and in conformity with this objective, publishes social balance sheets and income statements, value added statements, and human resources accounts. However, since these reports are not audited, their verifiability can be questioned. Positive social disclosures act as favorable public relations for the government.

There are ironies inherent in the findings of this case. First, India, a developing country, is doing innovative work in social and human resource accounting. The Western developed countries are not doing anything unique, apart from applications of value added production and social audits and environmental audits by some socially responsive companies. The innovative techniques applied by some Indian companies were originally published in U.S. academic journals. Nonetheless, the U.S. is not using those methods. There are two U.S. companies that deserve credit for introducing social accounting and reporting approaches which selected Indian public sector undertakings are applying: R.G. Barry Corporation and Abt Associates. However, those American companies had been completely unaware of their influence on Indian public companies, until we advised them about it.

This case can be used successfully in an Accounting Theory, Issues, or International course at the undergraduate or graduate level. The case should motivate students to think critically about the rationale and approaches for social and human resource accounting.

CASE QUESTIONS

1. What are the principal arguments for "social" disclosures in corporate annual reports?
2. What are the principal arguments against "social" disclosures in corporate annual reports?
3. What general types of social disclosures are provided in Indian financial reports?
4. How can social accounting information be presented in these reports? Discuss alternative approaches.

5. What is a "value-added" statement? How does it differ from an income statement?
6. What alternative approaches can be used in measuring human resources in financial reports?

CASE TEACHING NOTES

1. What are the principal arguments for "social" disclosures in corporate annual reports?

Social reporting is based on the notion that corporations receive their charters from governments, and thus owe accountability to society. Put another way, a corporation is a quasi-public trust. Consequently, corporations are expected to be socially accountable. If they are socially irresponsible, they should be required to compensate for damages their actions have engendered, or lose their charters. If they fail to fulfill their social and economic responsibilities, then they harm society.

Besides facilitating decision making, accounting has a stewardship role relating to custody and maintenance of resources. Management is accountable for use of investors' and creditors' funds. The effectiveness and efficiency with which such resources are utilized also comprise stewardship. Effectiveness is concerned with achievement of target objectives while efficiency reflects the use of inputs to generate actual outputs.

The most refined form of stewardship is social accountability, which is closely aligned with the objective of providing information for stewardship. Such information is not desired as an end in itself, but rather to facilitate decision making — such as whether to buy, hold, or sell shares of stock in a corporation or whether to lend or deny credit to the firm. The rationale behind this function of accounting is the efficient allocation of resources, a socioeconomic goal.

Literature on the economics of social costs and benefits points to the importance of reporting such data to optimize welfare. Data on social costs and benefits has generally been ignored in accounting. Such an omission may well leave a significant part of the firm's activities untold. Moreover, it may be a matter of self interest for companies to furnish such disclosure to enhance their public image and facilitate greater product acceptability.

If a company dumps waste into a river, an "externality" occurs if the public is affected adversely and the "guilty" firm has not compensated the public for damages. Without incurring a private cost, the company realizes a private benefit. Should the firm fail to disclose the social costs of that action in its financial reports, the readers of such reports would undoubtedly secure a misimpression of the total performance of the firm. Currently, there is greater likelihood that social costs will become private costs to socially irresponsible companies.

2. What are the principal arguments against "social" disclosures in corporate annual reports?

The case against social disclosure in corporate financial statements can be captured in terms of several key issues: Is it too ambitious for accountants to evaluate the impact of the firm on society? How might social costs and social benefits be measured? Would the

data be particularly uncertain, based on a host of value judgments? Would there be inconsistencies from firm to firm since there are no generally accepted accounting principles in social accounting? Can social data be audited? An unfavorable response to each of the foregoing questions reflects the arguments against social disclosures in financial reports.

3. What general types of social disclosures are provided in Indian financial reports?

In recent years, corporations especially those in the public sector, have been providing social disclosures in annual financial reports, in response to greater emphasis on accountability of all organizations. Many firms, however, furnish nothing more than verbal descriptions of their activities in the social realm, often mentioning only a few areas of social interest — such as human resources, the environment, and product safety. Some companies offer quantitative information, but few, apart from a dozen public sector undertakings, provide comprehensive social accounting statements. Moreover, the corporate social disclosures are typically simplistic and optimistic in nature.

In the future social accountability statements might be more refined and widely distributed to the extent that emphasis is placed on public accountability of companies. The U.S. is behind other countries such as France, Germany, and India in this respect. These statements can be prepared primarily by accountants because of their background in recording, accumulating, and classifying financial and operating data for the firm.

4. How can social information be presented in these reports? Discuss alternative approaches.

The following are alternative approaches to presenting social information in financial reports, which are not mutually exclusive nor collectively exhaustive:

(a) One alternative is to list the socially useful activities that the enterprise has actively pursued during the year. This would be a qualitative approach to social reporting. One of the best examples is the social audit report in the 1992 Ben and Jerry's Annual Report. Ten pages in length, the social audit report is a candid analysis by an outside social auditor of how the firm has fared in the areas of ecology, employee welfare, and employee safety on the job.

(b) Another alternative is to list the activities in (a) above and to provide a measure of the costs incurred for each activity.

(c) A third alternative is to list the activities and costs as in (a) and (b) above along with an assessment of the benefits, even though they may be qualitative, from each activity or action.

(d) David Linowes (1968, 1971), formerly an accounting practitioner, has proposed a "socioeconomic operating statement" (see Table 7) for business firms to reflect their positive and negative contributions to society. So far as we know, this approach has yet to be applied in practice. The statement describes the voluntary activities of the firm to enhance social welfare and the actions that could have been taken to enhance social conditions during a period. This report would consist of *two parts*, *improvements* and *detriments*, in *in each of the three areas*: *employ-*

Table 7. Linowes (1968, 1971)
Socioeconomic Operating Statement

Improvements	*Detriments*
1. Employees	1. Employees
2. Environment	2. Environment
3. Product Safety	3. Product Safety

ees, environment, and product safety. The improvements and detriments are specified, respectively, in terms of costs actually incurred or that might have been incurred. Such a statement would be input-oriented, ignoring any outputs produced from the inputs provided. The improvements would include: (1) the costs of establishing facilities for the general benefit of employees or the public without union or government requirement (e.g., day care centers), and (2) the expenditures incurred for safety devices on premises. The detriments would include: (1) the expenditures that would have been incurred if acquisition of safety devices on machines had not been postponed, and (2) the costs that would have been incurred assuming the installation of a purification process to neutralize toxic liquids had not been deferred (see Table 7).

The fundamental problem with Linowes' model is its failure to consider the benefits as outputs of corporate social actions. Accordingly, the model undoubtedly understates the benefits, which could represent a multiplier effect of the costs or inputs stipulated. Furthermore, showing detriments in terms of costs that would be incurred to rectify or at least alleviate a problem serves to grossly underestimate the impact of the firm's failure to resolve this matter.

(e) Another model, this one proposed by Seidler (1973), is also simplistic, calling for the various items in a social income statement for business firms (Table 8). In this statement, the added value would reflect the particular firm's own contributions — what it sells less what it buys — assuming that production of goods and services is desirable. The socially desirable outputs not sold represent external economies or social benefits stemming from private costs of corporations. Those outputs are produced by the firm, which has received no internal benefits from them. On the other hand, the socially undesirable effects not paid for by the firm reflect the costs the firm imposes on society — external diseconomies or private benefits stemming from social costs. So far as we know, the Seidler approach has yet to be applied in actual practice.

(f) Besides the conventional financial statements, Abt Associates, a New England based firm, has provided social accounting statements to reflect the firm's impact

Table 8. Seidler (1973)

Value added by production (assuming all production goods, or labor, mineral extraction, and capital consumption)
+Socially desirable outputs not sold (such as job training, employment of disadvantaged minorities)
-Socially undesirable effects not paid for (such as air and water pollution caused by the firm, health crises caused by using the firm's products such as thalidomide)

on employees, the local community, and the public at large. SAIL has applied this approach. In its social balance sheet, the assets include human resource training, equipment, buildings, and other organization assets. The liabilities include commitments by the firm to "non-socially productive contracts" and "environmental pollution." Appearing in the social income statement are benefits and costs, indicating current period effects on employees, the community, and the general public in three separate categories with a net social income or cost computed for each category. The benefits include health insurance, tuition reimbursement, and child care expenditures borne by the firm while the costs encompass measures of overtime worked but not paid and involuntary terminations. The total net social income is the sum of the net individual incomes for the three classifications.

5. What is a "value added" statement? How does it differ from an income statement? What are the advantages and disadvantages of value added statements?

A value added statement is an optional financial statement in European and Indian annual reports, providing sources of value and uses of the value furnished. A company is considered from the perspective of aiding the community. An anti-value added position has long been espoused by Milton Friedman (1970), who argues that corporate involvement in socially responsible activities militates against the efficiency of the enterprise, leading to higher costs and thus higher product prices. The value added concept is that a company is not in business simply to generate income, but more importantly to distribute its income to its various stakeholders: (a) employees (the company's "off- the-balance sheet" asset) — wages; (b) creditors — interest; (c) stockholders — dividends; (d) governmental agencies — taxes; and (e) the company itself — retained earnings.

Belkaoui (pp. 256-257, 1994) discusses the advantages and disadvantages of the value added statement:

Advantages

1. It encourages a positive attitude among employees because the statement considers them as major participants in the firm.
2. It provides a basis for a productivity bonus and other rewards based on value added information.
3. Value added ratios may be useful in predicting economic events impacting the firm.
4. Value added reporting is more congruent with the concepts used to measure national income.

Disadvantages

1. The groups implied in the statement may have adverse interests, not congruent interests as the statement implies.
2. Increase in value added may mislead shareholders.

3. Management may focus more on maximizing value added instead of shareholder value.

6. What alternative approaches can be used in measuring human resources in financial reports?

FASB *Statement of Financial Accounting Concepts No. 6*, "Elements of Financial Statements," 1985 defines assets as:

> ...probable future economic benefits obtained or controlled by a particular entity as a result of past transactions or events.

Apart from the emphasis on "past" events, it appears that human resources could qualify as assets. However, a firm does not own or control its employees even though future benefits are anticipated from their work. Reflecting human resource costs as expenses is the conventional way of treating such costs based on the uncertainty of future benefits from them and the ambiguity of the definition of an asset as set forth above. This approach understates the assets of the firm and can lead to dysfunctional decisions with respect to human resource management.

In recent years interest in human resource accounting has increased due to Japanese economic success. In Japan many companies have long followed the practice of hiring employees for life, thereby treating their workers as long-term fixed assets. (Sackmann, Flamholtz, & Bullen, 1989, pp. 235-6). In the U.S., employees have often been viewed by companies as expendable resources; accordingly, turnover has been high.

Human resource accounting serves the following purposes (Sackmann et. al., p. 236):

> (1) it provides numerical information about the cost and value of people as organizational resources, (2) it serves as a framework to facilitate decision making, and (3) it motivates decisionmakers to adopt a human resource perspective.

This type of accounting has been criticized in view of (Sackmann et. al., 1989, p. 236):

> (1) difficulties in showing people as assets, (2) the existence of specific training as a necessary but not sufficient condition for human assets, (3) the uncertainty of human resource measures and possible manipulation, and (4) difficulty of measurement.

In the U.S., the R.G. Barry Corporation, a Columbus, Ohio producer of footwear, had developed a system of accounting for its human resources from 1968 to 1974 based on research done by R. Lee Brummett, an academic accountant and former president of the National Association of Accountants (Table 9). If human resource costs are viewed as an asset, one alternative as done by Barry is to capitalize those costs at least for acquisition and training purposes at the historical price paid. Historical cost is verifiable, and future amortization is consistent with the going concern and matching principles. The proforma balance sheet of R.G. Barry (Table 9) shows the difference between conventional statements and human resource accounting.[1] The company President, Gordon Zacks, described this approach as useful in strategic decision making. However, the concept of formal human resource accounts never gained widespread acceptance. Human resource account-

Table 9. "The Total Concept"

R.G. Barry Corporation and Subsidiaries
1970 (Pro-Forma)
(Conventional and Human Resource Accounting)
(unaudited)

Balance Sheet	*1970 Conventional and Human Resource*	*1970 Conventional only*
Assets		
Total current assets	$10,944,693	$10,944,693
Net property, plant and equipment	1,682,357	1,682,357
Excess of purchase price of subsidiaries over net assets acquired	1,188,704	1,188,704
Net investments in human resources	942,194	—
Other assets	166,417	166,417
	$14,924,365	$13,982,171
Liabilities and Stockholders' Equity		
Total current liabilities	$ 3,651,573	$ 3,651,573
Long term debt, excluding current installments	2,179,000	2,179,000
Deferred compensation	77,491	77,491
Deferred federal income taxes based upon full tax deduction for human resource costs	471,097	—
Stockholders' equity:		
Capital stock	1,087,211	1,087,211
Additional capital in excess of par value	3,951,843	3,951,843
Retained earnings:		
Financial	3,035,053	3,035,053
Human resources	471,097	-
Total stockholders' equity	8,545,204	8,074,107
	$14,924,365	$13,982,171
Statement of Income		
Net sales	$28,164,181	$28,164,181
Cost of sales	18,252,181	18,252,181
Gross profit	9,912,000	9,912,000
Selling, general & administrative expenses	7,546,119	7,546,118
Operating income	2,365,882	2,365,882
Other deductions, net	250,412	250,412
Income before federal income taxes	2,115,470	2,115,470
Net increase (decrease) in human resource investment	(43,900)	-
Adjusted income before federal income taxes	2,071,570	2,115,470
Federal income taxes	1,008,050	1,030,000
Net income	$ 1,063,520	$ 1,085,470

Source: R.G. Barry Corporation 1970 Annual Report

ing today is generally confined to internal management analysis and planning, not to external annual reporting.

Another approach is to reflect the cost of replacing human resources including recruiting and training costs as an asset. The current replacement cost is the expected cost of replacing current employees with those able to perform the same work. The rationale for this alternative is that current replacement cost constitutes an up-to-date measure of the sacrifice of replacing a productive resource.

A third approach is concerned with the present discounted value of future salary payments as used by SAIL (Table 5). The key problems inherent in this approach are the

uncertainties of future salaries, inflation rates, and interest rates. A related approach is to discount the future cash flow benefits produced by management and employees. Since there are problems with forecasting the net future cash inflows to the firm, not to mention attributing part of those flows to human resources, this alternative reflects even more uncertainties than the third one.

Finally, human resources could be measured by opportunity costs, i.e., their value in their best alternative usage (Hekimian and Jones, 1967). Competitive bidding may be used to measure such opportunity costs (Hekimian & Jones, 1967).

NOTE

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1. Barry also established an appropriation of retained earnings to reflect the higher tax payment expected from capitalization of selected human resource costs. As a consequence, income would be higher and so too for tax payments.

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Payback: A gulf between managerial Accounting and Financial Theory in Practice — A view from accountants and finance officers in Ireland

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Key Words: Capital investment decisions; Capital budgeting; Ireland; Payback

Abstract: *This paper examines the payback model in capital investment decision making and advances our knowledge of how it is interpreted and implemented. Practices in Ireland's top 500 companies are reported and research findings suggest that the deficiencies normally accepted as hallmarks of the payback model are not necessarily present in practice. These results are of international significance because, as in many other countries, Ireland's top 500 companies consist of multinational subsidiaries and the largest locally owned companies.*

INTRODUCTION

Capital investment decision making is confounded by multiple choices each possibly leading to myriad options. We "know" that the future is uncertain and that information as to future events is "imperfect", but we also have an innate need to believe that we can control and shape our future world. There is thus a tension between two forces to be grappled with in capital investment decision making (CIDM). In reviewing and differentiating between theory and practice in one CIDM model, (i.e. the payback Model), the gap and differences discernible can be explained and understood by dichotomizing the initial mindset as follows:

First is the Rational-Economic model, which assumes rationality in, and availability of "perfect information" to decision makers. This is the normative perspective of analytical finance. Where necessary "reality" is mentally adjusted to fit the model. The writings on payback are developed in this context, but in the literature theorizing on and reporting empirical findings on CIDM and in particular payback, rarely, if ever, are these inherent assumptions confronted. The model propounded and demonstrated to be theoretically cor-

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rect in the literature is the net present value model (NPV); payback is demonstrably inferior. The arguments and reasoning are flawless if availability of perfect information, rationality in decision making, and utility maximization in decision makers is assumed.

Second is the behavioral decision model in which it is acknowledged that human limitations make rational decision making difficult to achieve. An up-front awareness that we have not mastered foretelling decision outcomes or controlling chance occurrences and that rather than all accurate and relevant information being available or predictable we have, at best, conditionally certain nodes in a labyrinth of possible futures and bounded rationality in decision makers.

Hogarth explicates the advances in behavioral decision theory and argues that it has much to contribute to decision making in accounting settings.[1] This article explores the notion that if payback is viewed and operationalized from this perspective, it is not subject to many of the shortcomings attributed to it and that when forecast cash flows are discounted (the discounted payback method), it is not significantly different from but should be viewed as an operationalization of the ideal; the net present value method. Reported results of an Irish survey lend support to the view that the oft-repeated inferior attributes of the stylized payback model are not strictly adhered to in practice and that, in their role as suppliers of information to aid decision making, accountants should think in terms of an *array* of decision relevant information. These results are of international significance; as in other countries, Ireland's top 500 companies consist of subsidiaries or divisions of multinationals and the largest locally owned companies.[2]

THE DECISION CRITERION

Empirical evidence has confirmed the perceived usefulness and wide use of payback by practitioners. This evidence has invariably been collected by large scale survey and despite problems with surveys,[3, 4] survey reports and discussion generally assume an objectively defined model that is consistently understood, interpreted and operationalized within and between organizations. A perusal of management accounting and finance textbooks in popular usage in the United State, United Kingdom, Ireland and Australia raises the question of whether, strictly speaking, there is one core model with variants or a set of related models. The decision criterion is sometimes stated as "choose the project that pays back the initial cost in the shortest possible time"[5, 6] while at other times it is said to be "choose the project whose estimated payback period meets some benchmark or critical value".[7, 8] So one version of payback is described as asking the question "How long before I get my money back" in consequence of which a payback period is calculated and a decision is made as to its acceptability or, in the case of choice between investments, the investment that returns outlay in the shortest possible time is chosen. Another version asks "Will I get my money back in *X* years?"

This difference is not trivial. One version directs an initial focus on a particular predefined date while the other does not. The difference is, perhaps, akin to that between the internal rate of return (IRR) and NPV methods where the IRR method invites a decision as to whether the internal rate is acceptable while the NPV method specifies a rate. Either of the two versions of payback allows for discounted or undiscounted cash flows, thereby leading to at least four variations.

One way to discern a discipline's scope and domain is by examining its textbooks.[9] It is clear that writers of managerial accounting textbooks consider capital investment decision making and the tools and techniques appropriate to the task to be core material for accounting graduates. It is with this premise that payback is handled in textbooks and in the managerial accounting literature generally. Examination of the literature, including textbooks, on corporate finance or financial management, reveals parallel thinking. Overlap in topics studied and researched by two disciplines is not remarkable. Capital investment decisions are often irreversible and strategically critical and deal with the allocation of resources that may not be recouped or pay "dividends" for a significant period of time. Consequently, the contribution of different disciplines to a broader management decision would be considered desirable. What is remarkable is the consensus in treatment, understanding, and critique of payback in both areas. The perspectives are not differentiable; any differences are across, rather than within, disciplines.

There is general unanimity among academic writers as to the attributes and shortcomings of the payback model. Literature on payback, regardless of whether strictly classified as finance or accounting, can usefully be summarized within the following two divisions:

1. Expositions of some variant of the payback model and of its claimed advantages and disadvantages with the disadvantages being shown to outweigh and a conclusion that its continued use, as evidenced by empirical research, is anomalous. This is a common textbook approach.
2. Justifications for its continued use and expositions of its usefulness. Payback popularity is, for example, explained in terms of asymmetric information in an agency context, liquidity considerations, executive incentives, risk adjusting, and capital rationing aids. It has been noted that although none of the explanations offered was separately compatible with theory, they were collectively persuasive of the method's merit.[10]

Both approaches are from the rational-economic model perspective and arguments are developed in that context. It is perhaps simplistic to remind that the future is, by its very nature, uncertain; that impeccably rational decision making may be followed by disappointing outcomes. Gold evidences decision makers' lack of success in forecasting production output and industrial prices and maintains that "three- to five-year forecasts of prices are widely regarded as meaningless."[11] Allaire and Firsirotu (1989) also note the poor record in predicting future demand.[12] Moreover, very different choices can be made by different decision makers in the same environment and with the same objectives.[13]

It is instructive when looking at the attributes of payback as outlined in the literature to be acutely conscious of the human limitations in information processing and future predicting with which practicing accountants grapple.

ARBITRARY CUT-OFF

One of the criticisms of all versions of payback is that the cut-off point for forecast cash flows is arbitrary. This criticism is usually voiced in differentiating it from the NPV model where the cut-off date is, theoretically, the end of the investment's projected life. Mindful of the many interconnections and contingencies in our environment, it is difficult to con-

ceive of an investment and the inherent options that may unfold therefrom whose ripples would not have ramifications and repercussions to infinity. Therefore, forecasting should, according to the NPV model, continue to infinity; any point prior to that is arbitrary and theoretically incorrect. Arbitrariness, in the sense of subjectivity, is not tolerable in an "ideal" or "model". But the length of time for which numerical forecasting is sensible will vary with the circumstances of the investment under consideration as well as with forecasters; it is unlikely in any case to verge on infinity.

Little research on how companies decide on an acceptable payback period has been reported although it has been claimed that many firms choose their benchmark payback period "essentially by guesswork"[14] Nor has research been reported on whether companies that utilize a benchmark do so with investments of all types and sizes. It is likely that a critical benchmark payback is an important element in some decisions, not with the focus of getting money back per se but because that time period is a significant ingredient in the investment itself. Examples would be the estimated time period for technology to become outdated, the length of time to market penetration for a product or a life cycle costing or budgeting analysis.

It has not been established that companies feel constrained to cease forecasting at the benchmark or payback point. Essentially, numerical, as distinct from a complementary qualitative, forecasting of cash flows should stop when further estimations cannot be made with any degree of confidence. Although that point is arbitrary, it is not necessarily so in the capricious sense.

CASH-FLOWS AFTER PAYBACK ARE IGNORED

Undoubtedly failure to consider cash flows after the (benchmark) payback period would constitute a serious defect in CIDM practice. A common scenario in textbooks is that a company when using payback to choose between investments errs by not investing in the most profitable project. Estimated cash flows for two projects, A and B, are given. The net present value of Project A's cash flows is much higher than that of B but because it fails to satisfy the benchmark payback period or its payback point is reached later than Project B's it is rejected in favour of Project B, the less profitable option. Thus, payback is seen to be focusing on liquidity and, more important, ignoring profitability since assessment stops at the point of cost recoupment and thus the beginning of profitability. This assumes that decision makers focus on the time period between introduction and the benchmark, check whether payback will occur in that period and ignore later prospects, or that estimated cash flows are cumulated until payback is reached and its acceptability then determined. This suggests a completely tunnel visioned and mechanistic approach to the decision with the only focus being a point in future time.

In practice decision makers may not always slant the payback method in one particular way but may view it from different perspectives within and between companies at different points in time. For example, in one instance a decision maker may be asking how long can one be reasonably certain of the market demand or environmental factors that will impinge on an investment or can one be reasonably certain of these factors for X years. In another instance it may be that a project which survived or thrived to a certain point was much more likely to do really well after that.

If beginning with the conscious awareness of future uncertainty in assessing investments being contemplated, these considerations might constitute useful starting points in defining the problem space for initial consideration and perhaps establishing an anchor from which to adjust. This approach is distinct from heuristic processing; it does not logically follow that a decision maker will feel constrained to cease assessment and analysis at benchmark or at the point where the initial investment is recovered.

TIME VALUE OF MONEY

We do know with certainty that money has a time value and, therefore, that discounting estimated future cash flows to present value is logical and theoretically correct.

To overcome the time value of money (TVM) shortcoming the discounted payback period was proposed.[15] In retrospect, it is perhaps regrettable that it was so named. Some textbook treatments of capital budgeting methods do not mention it and, perhaps significantly, when its existence is acknowledged, it is invariably interpreted and categorized as a variant of payback and not included as a discounted cash flow method (DCF) which it also is. It is summarily disposed of with a general assessment along the lines of "OK, so it fixes the TVM shortcoming but all the other shortcomings remain". Two critical pieces of information are needed to operationalize the NPV method: the means of expected future cash flows and the rate at which they are to be discounted. Discounted payback is sometimes described as a truncated version of NPV. The truncation may be a result of operationalizing the NPV method rather than because of a deliberately and arbitrarily shortened time horizon.

Discounted payback seemingly also receives scant attention in surveys that investigate the extent of utilization of different capital budgeting methods. It is not distinguished from undiscounted payback on the one hand or from other DCF methods on the other. In forced choice questions, therefore, questionnaire respondents who use discounted payback may reasonably include it in DCF and/or payback category options, resulting in inconsistency of interpretation within and between respondent companies.

Surveys have attested to the fact that payback is popular and that a majority of companies use more than one method. Because of the sequential nature of language it is necessary when describing capital budgeting methods to deal with each technique or method separately. But, rather than keep different methods in separate mental boxes, it may be that practitioners use the different methods in a non linear fashion in order to assess forecast outcomes from different angles and perspectives.

If a capital investment is being assessed by different people, from different perspectives and using different methods it is possible that an undiscounted version of payback may contribute more than a discounted version. Data as to future cash flows are estimates, as is the required rate of return to be used in discounting them. It is likely that attempting to quantify hazy, uncertain future events will sharpen thinking and quantification allows data from different sources to be combined and co-manipulated. This advantage is realized, at least theoretically, in the NPV method. However, such quantification also imposes a rigidity that may cause a loose qualitative assessment, and thus an important dimension, to be lost. Assigning numerical values to possible future outcomes and their resultant options is, of course possible but the extent to which the underlying qualitative base is captured is an

important concern. Many phenomena can, at best, be quantified only in terms of ordinal numbers. If these numbers are understood in the same way and manipulated with "real" or ratio-level numbers, results yielded would likely constitute precise nonsense.

Payback has been found to be the primary capital investment decision making method used in Japanese companies[16] and Japanese companies "relied solely on a non-discounting approach ...". [17] This finding does not necessarily equate with complete ignorance or dismissal of the TVM concept but rather it may imply an intuitive reliance based on the lessons of experience, which may evaporate with formal quantification.

QUICK AND SIMPLE

Ostensibly proclaimed to be an advantage, quickness and simplicity presumably result from not having to estimate cash flows for all of an investment's life and, in the case of undiscounted versions of payback, from not needing to determine a required rate of return and discount the estimated cash flows. Studies have found no evidence to support the idea that lack of understanding explained why some companies did not use discounted cash flow methods.[18, 19] Indeed, given the length of time these methods have been taught to accounting students, it would probably be difficult to find a practicing accountant ignorant of discounted cash flow.

As a concept, TVM is not difficult to understand. This author has found that children as well as adults from all walks of life understand it with ease. It is likely that not all personnel with input into investment decision making would actually be able to implement the concept in the sense of performing the necessary numerical calculations correctly but that is probably true of a lot of operationalizations, from navigating the information highway to word processing, that executives use. The supposed quickness and simplicity are implicitly if not explicitly relative to the NPV method, which is considered sophisticated because it numerically considers risk and the time value of money. Sophistication is synonymous with superiority; there have been attempts to show that firms using the so-called sophisticated methods actually do better.[20, 21] Support for this has been found using a matched pair design[22] but because surveys show that a majority of firms use sophisticated methods to some extent and since it is likely that successful firms also do other things differently, identifying and controlling for confounding variables makes causation very difficult to prove.

The finding that a majority of firms use more than one method and usually use payback with so-called sophisticated methods[23] negates the notion that "quick and simple" explains its popularity. The finding also supports the recommendation that the merits of the various methods should be assessed as one of a suite in the context of future uncertainty and limited human information processing abilities.

To calculate the NPV of an investment and so decide on its acceptability, predicted cash flows are discounted to present value at the cost of capital. The NPV calculated and, therefore, the investment accept/reject signal are highly sensitive to the discount rate used. During the 1980s there was much evidence, at least in the United States, that the discount rates used were unrealistically high.[24, 25] The fact is that our means of gauging the appropriate risk-adjusted discount rate is rudimentary. Pinning a number on a phenomenon allows us, in some way, to feel in control. It also causes a more qualitative assessment to

be forfeited and this is often difficult to thereafter re-express. Once presented or derived, numbers tend to be considered value free so that the "numbers create reality".[26]

The literature abounds with evidence attesting to the reliance of decision makers, to a greater or lesser extent, on qualitative and intuitive assessment and that "big" decisions are made qualitatively. But we know from the psychological literature that, in capital investment decision making, the limitations of human cognitive ability make it unrealistically naive to expect that all factors, aspects, and contingencies can be borne in mind (either human or computer), weighed and offset without quantification. We therefore need formal procedures to jog and direct intuition. Payback can be interpreted as such a procedure. A proposal solicits quantitative assessment to the extent that the ascertainable underlying database supports precise numerical representation. Beyond this point, numerical forecasts cloud both the degrees of uncertainty and the strength of the data/information bases suggesting alternative futures. These factors could be captured and represented linguistically without the illusory certainty which the pseudo precision of numerical forecasts prompts. Wallsten[27] reports on five experiments that were "unable to establish" that decision making ability was superior with numerical rather than linguistic forecasts. Zimmer[28] also provides evidence in support of the premise that because people are more adept at language than arithmetic and probability rules, they can more optimally use linguistic representations.

RESEARCH METHOD

To ensure contextual fit in this research, a number of field visits to Irish manufacturing and service companies were made. Extensive interviews with personnel from the engineering, accounting, and finance areas were conducted. Their methods and processes of capital investment decision making and the ways in which they interpret and implement the so-called payback method were queried. The willingness with which these personnel shared ideas and perceptions as well as their generosity in giving their time was notable.

The topic generated a great deal of interest which was also reflected in many of the returned questionnaires that included comments to the effect that the study was very worthwhile, being relevant and meaningful to practitioners.

A majority of studies of capital investment decision making practices have used the questionnaire method and, in designing this instrument, the author was very aware that the method and the language used may drive results. It has been pointed out that respondent firms will feel under great pressure not to admit to proscribed behavior.[29] Practitioners have been to business schools and read professional journals and given the length of time that the relative superiority of DCF methods has been espoused in business schools and professional journals, it is unlikely that this "fact" eludes many of them. Preliminary fieldwork in preparation for this study left no doubt that practitioners were aware that academics favor the NPV method. Therefore, the possibility of normative responses, particularly in this area, should be appreciated.

A questionnaire was developed and pre tested on finance directors of smaller Irish companies as well as on accounting personnel from a number of large companies. They were asked for comments and suggestions on question relevance and ambiguity. After pre test questionnaires were completed, additional interviews were conducted with six of these

respondents in an effort to ensure that the terms used would elicit a valid measure of the information sought.

To guard against unreliability and invalidity due to memory errors and because of possible personnel turnover, information sought on decision making practices was confined to the prior two years.

The finance directors, many of whom were accountants, of the top 500 companies in Ireland, ranked by turnover, were mailed a questionnaire. Turnover for these companies ranged from £10m to £1,216m. An unstamped return envelope was included. Two weeks later a reminder letter was mailed to non respondents, followed by another copy of the questionnaire with an attached note two weeks later.

A limitation common to all mailed questionnaires is the loss of researcher control once the questionnaire is mailed. Aggarwal pointed out that the response reflects the information of the individual who completes the questionnaire.[30] Questionnaires were addressed to the finance director of each company but it is possible that the questionnaire was, in fact, passed to other functional employees within companies for completion.

Data on returned questionnaires were screened and cleaned with the aid of SPSS. After questionnaires not satisfying these tests were deleted listwise, three hundred and seven responses (more than 60%) were deemed usable. Internal validity of responses was confirmed by telephoning a representative random sample of respondents. Nonresponse bias was checked by telephoning a representative random sample of nonrespondents. Some indicated that company policy prohibited reply. A majority pleaded lack of time or procrastination. Their practices were not found to be significantly different from those of respondents. Cooperative creameries and distribution companies are under represented in usable responses. This is not due to nonresponse but because many from these industry categories who did reply pointed out that they had not undertaken any significant capital investments in the prior two years; this confirmed the perceptions gained in preliminary fieldwork. With this exception, the usable response rate was consistent across industry category and company size.

RESULTS

This section outlines the hypothesis and questions for exploration which the preceding considerations suggested and reports on the results of part of the survey conducted.

Eleven percent of companies indicated that they did not use payback as a decision aid. Data for those companies that do use some version of payback are reported in Table 1 which shows that more than half utilize a benchmark period.

Arbitrariness, in the non-absolute sense, is frowned on in model building because it allows for manipulation reflecting subjective bias. In practice, arbitrariness in the bench-

Table 1. Companies Using Some Version of Payback That Designate A Benchmark Period

Value	*Percentage of Respondents*
Yes	60.4
No	39.6

Note: $n = 273$

Table 2. Length of Time for Which Benefits of Proposed Capital Investments Could be Forecast

Time Period	*Percentage of Respondents*
0 to 3 years	25.4
4 and 5 years	44.0
6 to 10 years	23.8
More than 10 years	6.8

Note: $n = 307$

mark period delineated by companies is not necessarily a result of mere whim or model manipulation for dubious reasons. Rather, it may be one representation of uncertainties, inherent in cash flow forecasts, which are being tackled multidimensionally. Awareness that, in practice, uncertainties in future cash flow forecasts to an infinite horizon cannot be ironed out by any model or technique led to the following hypothesis:

> **H1:** *If companies assign a benchmark payback period, it is a function of uncertainty in forecasting.*

In the first section of the questionnaire respondents were asked to indicate for how long into the future they had, on average, during the prior two years, felt able to forecast benefits of any proposed capital investments. Table 2 shows that more than 50% of respondents felt unable to do so for a period of more than five years and more than 90% of respondents felt unable to forecast benefits beyond 10 years.

In the second section of the questionnaire, respondents who had indicated that they designated a benchmark payback period were asked to disclose what that benchmark was and why it was chosen. Table 3 summarizes the responses to these questions.

A chi-square test of independence was performed to determine whether there was a relationship between the length of time companies could, on average, sensibly forecast and their benchmark payback period. The hypothesis of independence was rejected ($p < .01$). Further testing suggested a moderately high degree of association between the benchmark payback period and the length of time companies felt able to forecast benefits (Cramer's V = .69).

Table 3. Benchmark Payback Period and Reason for Choice

	Percentage of Responses
Benchmark Payback Period	
3 years	51.4
5 years	27.7
10 years	14.5
other	6.4
Reason Benchmark Chosen	
Unable to forecast further	44.2
Directive from Parent/Group	12.2
Product/Project Lifecycle	19.1
Industry Practice/Industry experience suggests	19.7
Other	4.8

Note: $n = 165$

According to the rigid payback model described in the literature, companies that specify a benchmark payback period would not consider benefits after that point; similarly, companies that do not delineate a benchmark payback period would not consider benefits after the initial investment is recouped. However, discussions with practitioners during early field visits suggested that these benefits were in fact considered either qualitatively and/or quantitatively. With this reminder that a model, if it is to be useful, is a generalized abstraction that will not hold precisely in every application, the decision was made to explore the following:

1. Whether companies that have delineated a benchmark payback period consider benefits after that point
2. Whether companies that use a payback model but that have not delineated a benchmark payback period consider benefits after payback is expected to be achieved.

Companies were asked whether they had "given consideration to benefits which might accrue" after payback during the prior two years. It was recognized that "give consideration" is somewhat nebulous and applicable to the gamut of regard. It was believed that attempting to quantify those benefits was one indicator of focused and more than superficial attention. Companies that indicated that they had considered benefits after payback were asked if they had attempted to quantify those benefits. The responses to these questions reported in Table 4, show that a majority do consider benefits after payback.

{Insert Table 4 About Here}

Researchers have sought, without persuasive conclusion, to determine whether factors such as company or investment size or activity type determine the choice of decision making method.[31] Furthermore, a number of studies[32] have attempted to assess the relative importance of the payback model when more than one method is used and so have enquired as to whether it is the primary, secondary, supporting or predominant method used. Given the limitations of human information processing, consistently interpreting and implementing these degrees of reliance is problematical. Studies, particularly large-scale questionnaire types that have intended to elicit levels of subtlety in evaluative processes, within and between companies, in decision situations are fraught with reliability and validity problems.

When embarking on the research herein reported, it was conjectured that in some circumstances decision makers might vary their degree of adherence to or compliance with the nominal properties and parameters of the payback model when assessing decision-rel-

Table 4. Companies that Gave Consideration to Benefits After Payback

Value	*Percentage*
Yes	73.3
No	26.7

Note: $n = 273$

Percentage of these Companies who Quantified Forecast Benefits	
Yes	76.9
No	23.1

Note: $n = 200$

evant data. In other words, rather than focusing on whether and when payback was used, and the relative reliance it commanded, information was sought on whether and/or in what circumstances some of the restrictive assumptions and simplifications of the superficial static model were relaxed.

Accordingly, companies with a designated benchmark payback period were asked whether they had, in the prior two years, undertaken investments not expected to satisfy it. Those who responded in the affirmative were asked to specify the circumstances of, or reasons for, this decision. Table 5, which includes a summary of responses to these questions, indicates that more than one-half of companies with a defined benchmark payback had, in the prior two years, undertaken investments not expected to satisfy it. A majority did so for strategic reasons. This was an open-ended question without cues or prompts. The unanimity and clarity of responses as to reasons for or circumstances in which designated benchmarks were not complied with was remarkable. Furthermore, it cannot be assumed that the 43.5% of companies that did not undertake post-benchmark investments acted to comply with their predefined cut-off point. Perhaps it may have been because worthwhile projects, with benefits assessed to accrue after the benchmark cut-off, did not present themselves.

To explore possible relationships, companies were asked to categorize the investments they had undertaken in the prior two years by five types and five amounts as follows:

(a) *Types* — Replacement projects, expansion into new operations or products, expansion of existing operations, research and development and other; and (b) *Amounts* — Under £50,000, £50,000–£200,000, £200,000–£500,000, £500,000–£1,500,000, Above £1.500,000

The data were cross-tabulated extensively, and chi-square tests were conducted in an effort to uncover any significant relationships between company size, investment size, and investment type on the one hand and the use of a benchmark payback period, consideration of, and attempts to quantify benefits after payback and the undertaking of investments contra-indicated by a static payback model on the other. Because of the likelihood of confounding variables and because cell sizes were small when some cross-tabulations were performed, definitive conclusions on the existence of some associations could not be drawn with confidence. The following conclusions, however, were possible:

The relationship between the variable investments undertaken that were not expected to meet benchmark payback and three of the investment-type variables (expansion of existing operations, expansion into new operations and/or products and investments in research and development) was found to be significant ($p < 01$). Thus, though companies had delin-

Table 5. Companies that Undertook Investments Not Expected to Satisfy the Delineated Benchmark Payback Period

Value	*Percentage*
Yes	56.5
No	43.5
Reasons for Decision	
Strategic/Market Share	65.6
Replacement	16.1
High IRR or NPV	18.3

Note: n = 163

eated a benchmark payback period they disregarded it in undertaking expansions into new or existing operations and investments in research and development.

A relationship that was statistically significant ($p < .01$) was also found between the variable expansion into new operations and/or products and the variable undertaking investments not expected to satisfy the benchmark payback for strategic/market share reasons. Thus, companies would, for strategic reasons, undertake investments not expected to satisfy their designated benchmark payback.

Neither company size nor investment size appeared to be associated with any of the variables of interest.

CONCLUSION

Prior research in this area has pursued discovery of the extent to which an idealized payback model is used, the relative reliance placed on it in practice and reasons or justifications for its continued and wide use. Constancy and consistency in its interpretation and use are assumed. The model may not in practice be utilized within the strict confines of its literature specification and the boundary between the NPV model and the discounted payback model may not be as sharp in practice as it is in theory. It may be that the classical economic model of decision making is a useful gauge against which to assess capital investment decision making behavior but since rationality does not accurately reflect decision making behavior and, accepting that the future is not knowable, it behoves us to design and use multiple models and to assess practice from multiple perspectives.

The research reported here acknowledges that human information processing limitations as well as practical, behavioral and organizational constraints come into play in the operationalization of models that are necessarily simplifications and abstractions. The shortcomings of payback, demonstrable in a neoclassical economic setting, are examined and research findings suggest that these deficiencies, although normally accepted as hallmarks of the model, are not necessarily operationally present.

It may be that researchers have been trying to discover the why and the when of payback without knowing the actual what. The results of this study suggest that payback is an example of what Chua, [1986] had in mind when she referred to "theories about practice that, in the main, are neither of nor informed by practice."[33] This research suggests that we need further development and agreement on a description of a payback model (or models) that is informed by actual practice. Fruitful future research should encompass replication, in other countries, of the findings reported here concerning the way in which payback is utilized as well as qualitative observation and exploration of its use in order to aid in the clarification and refinement of the way in which the model is contextually adapted. Practitioners may capture the essence of decision problems while the theoretically optimal NPV model and the theoretically suboptimal payback model do not.

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The International Journal of Accounting

The Perceived Importance of International Accounting Topics in the Asia-Pacific Rim: A Comparative Study

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Key Words: International accounting curricula; Asia-Pacific Rim; Culture

Abstract: *Past research generally addresses international accounting curricula in North America and Europe. The increasing international trade traffic and the strengthening of ties with Pacific Rim countries ranks this geographic region as one that should receive the most emphasis when developing international accounting skills. This study presents four culture areas and uses an ANOVA design to identify significant differences in participants' perceived importance of 35 international accounting topics included in prior studies. Significant results are found for 12 topics among these four areas. Cultural values, institutional consequences, and international influences are discussed as possible factors that have a significant impact upon the perceived relative importance of these 12 topics.*

INTRODUCTION

During the past three decades, since the teaching of international accounting was pioneered at the University of Illinois at Urbana-Champaign, research has been conducted into the teaching and curricula of international accounting. This research has produced results ranging from four suggested considerations when developing an international accounting course[1] (Kubin, 1973) to the importance of various topics or the frequency of the inclusion of such topics in international accounting courses (e.g., Dascher, Smith, & Strawser, 1973; Burns, 1979; Agami, 1983; Gray & Roberts, 1984; Stout & Schweikart, 1989; Herremans & Wright, 1992a, 1992b, and 1994; Sands & Pragasam, 1993). The majority of this research has concerned topics generally related to international accounting curricula in North America and Europe. Academic textbooks tend to emphasize topics for these regions and compare the accounting systems they use while the same and other specific topics relating to other countries or regions receive less attention.

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This focus is understandable because the majority of international transactions traditionally have occurred in the Atlantic region. Three particular developments have occurred during the past decade to change this focus. First, Kress, Lantry, and Alfakhri (1992) cited Anguiera (1989), who noted that as a result of the worldwide expansion of capital markets, approximately 200 multinational corporations (MNCs) trade their equity securities actively in foreign markets. In addition, other companies engage in international investment as a result of transactions within foreign currency future markets and foreign joint venture activities (p. 66).

Second, the sustained economic development that has occurred in Asia has not been restricted to Japan but, according to Cooke and Parker (1994), now extends to South Korea and Taiwan and to Singapore, the Philippines, and Indonesia, where gross national product (GNP) has been reported in excess of 6%. Furthermore, the continued negotiations by countries including the United States for the Asia-Pacific Economic Cooperation (APEC) trade agreement signifies the importance of the Asia-Pacific region in future international trade.

The Canadian participants in the study by Herremans and Wright (1994, p. 283) indicated that when developing their international accounting skills they would rank the Pacific Rim as the geographic region that should receive the most emphasis after the United States. Herremans and Wright (1994) indicated that the strengthening of ties between Canada and the Pacific Rim countries is the result of the changing international trade traffic. They also suggested that this shift in historical trade focus has created the need to learn about Pacific Rim countries' cultures and related accounting skills, which are quite different from those in Anglo-Saxon countries.

The third particular development, as a consequence of this economic growth in the Asia-Pacific region, is the significant increase in the accessibility of students to tertiary education either in their home country or in North America, Australia, and New Zealand.

Just as Kubin (1973) realized that two of the four considerations when developing the curricula for international accounting courses are the needs of students and the needs of their future employers, we realize that given the emergence of many developing economies in the Asia-Pacific region the accounting needs of these countries should be considered in international accounting courses taught there. In particular, large markets are opening up in the Asia-Pacific region and the growth in importance of the region for MNCs and exporters/importers with headquarters on the North American continent will have an impact on the needs of students of international accounting and their future employers. Herremans and Wright (1992a, p. 1) identify various international business and education sources (e.g., Beamish & Calof, 1989) that have "espoused the need for employees to possess new skills in order to compete in the global market place."

International accounting educators may need to reconsider the relevance of the traditional curricula to the needs of students and their potential employers as a result of these three developments and to adopt a more geocentric perspective when redesigning the content of courses. This geocentric objective may be achieved by identifying topics whose perceived importance vary according to countries.

Since 1973, various studies using academics as participants have been conducted in the United States, Canada, Britain, New Zealand, and Australia to determine the relative importance of topics covered in a typical international accounting course. Table 1 reports the various studies, the country or countries in which the study was conducted, and the participants of each study. With the exception of the study by Agami (1983) that included

the United States, Canada, Britain, and New Zealand, these studies examined the importance of international accounting topics within the researchers' home country identified in the second column of Table 1.

PURPOSE OF THIS RESEARCH

The purpose of this study is to identify any significant differences in the perceived level of importance of international accounting topics to academics within the Asia-Pacific region which includes the west coast of the United States, Canada, and Mexico (USCM). These differences and the possible causes of significant variances may be of interest to educators designing or redesigning their international accounting course contents in their efforts to mitigate international accounting problems — the fourth consideration suggested by Kubin (1973). Furthermore, authors and publishers of educational textbooks and journal articles may consider the varying importance placed on topics in their future publications. The incorporation of this information in courses and reading material will add to the quality of the teaching about the Asia-Pacific region for future international trade.

PRIOR LITERATURE AND AREA GROUPINGS

Agami (1983) analyzed the frequency of appearance of topics in the syllabi of 31 international accounting courses offered at universities in the United States, Canada, Britain, and

Table 1. Prior Research on International Accounting Course Contents

Study (year)	*Country where Study Conducted*	*Participants of Study **
Dascher, Smith, and Strawser (1973)	United States	MNC controllers (93) and accounting faculty heads (90)
Burns (1979)	United States	AAA international accounting section members and accounting faculty heads (36)
Mintz (1980)	United States	AAA international accounting section members and accounting faculty heads (35)
Agami (1983)	United States, Canada, Britain, and New Zealand	University faculties (31)
Gray and Roberts (1984)	Britain	University faculties (13)
Sherman (1987)	United States	Accounting faculty heads (129)
Stout and Schweikart (1989)	United States	Accounting faculty staff (183) and practicing accountants (288)
Faux (1991)	Australia	Accounting and law faculty staff (18) and accounting students (23)
Herremans and Wright (1992a)	Canada	Chief financial officers and controllers of firms (59)
Herremans and Wright (1992b)	Canada	Canadian accounting faculty academics and Canadian Academic Accounting Association members (97) and chief financial officers and controllers of Canadian international firms (59)
Sands and Pragasam (1993)	Australia	International business students (222)
Herremans and Wright (1994)	Canada	Government accountants of the Certified General Accountants Association of Canada (51)

Note: * The number of usable responses used to rank topics is reported in parentheses.

New Zealand. The participants of his study are from countries classified as part of the British-American cluster because of the similarities in their accounting practices (Mueller, Gernon, and Meek, 1987; Nobes, 1983). It therefore may be deduced that participants from different countries within the British-American cluster might perceive these topics in a similar manner. The recognition of this factor may be the reason why Agami (1983) did not report differences in importance for these 30 topics between these countries.

Mueller (1967) used a deductive approach to identify four approaches to and uses of accounting information. Nobes (1983) extended Mueller's study and identified two main "classes" of accounting development. The model developed for these classes was based on the impact of different influences on financial reporting measurement practices (i.e., legal, political, economic, and business). Using an inductive approach, a number of researchers including Nair and Frank (1980) and Mueller et al. (1987) grouped or clustered countries based on accounting similarities.[2] Although this priori and posteri research considered variables that Gray (1988, 1989) labeled "institutional consequences and international influences" (e.g., legal, political, and economic ties), he states that the influence of the societal values of a nation on its accounting values was not included in such prior research.

For example, although Mueller et al. (1987) clustered Australia, Hong Kong, Indonesia, New Zealand, the Philippines, Singapore, and the United States under the British-American model, Gray (1988) used Hofstede's (1980) findings to classify these countries in three culture areas within the British-American model of Mueller et al. These research findings imply not only that the diversity of accounting standards and practices exists as the result of institutional and international influences, which can be used to group nations into clusters with accounting similarities, but also that diversity exists within these clusters because societal values influence accounting values and the accounting system.

Much economic development has occurred in the Asia-Pacific region since Hofstede's (1980) study. As a result, a number of countries (e.g., Indonesia, Taiwan, and the Philippines) included in his less-developed Asian area need to be reclassified. Newly emerging countries such as South Korea (hereafter called Korea), also may need to be grouped into a culture area. Additionally, some countries in Hofstede's less-developed Asian area have been influenced by their colonial history and may need to be reclassified into his Asian-Colonial area.

Because Hofstede's culture areas were not based on accounting influences, the use of the cluster criteria of Mueller et al. (1987) as the critical step in the reclassification or classification of these countries is considered appropriate. Mueller et al. indicate (p. 15) that because of the similarities of the accounting criteria, their British-American model should really be called the British-North American-Dutch model. Therefore, based on accounting similarities, Hofstede's Asian-Colonial area may be extended to include countries influenced by the United Kingdom, the United States, or the Netherlands.

Radebaugh and Gray (1993) provide examples of the colonial influence of these three nations on certain Asian countries, for example, Indonesia (Netherlands), Hong Kong and Singapore (United Kingdom), and the Philippines (Spain/United States). Although the Philippines has been influenced by its colonization by Spain and the United States, the classification of accounting systems by Nobes (1984) shows that the financial reporting practices of the Philippines are influenced by the United States. AlHashim and Arpan (1992, p. 41) indicate that the accounting standards and procedures of the Philippines are

very similar to those applied in the United States. Cooke and Parker (1994, p. 300) also indicate that the financial reporting framework in the Philippines bears a closer resemblance to the framework of countries in the Anglo culture area than that of the less-developed Asian area hypothesized in Gray's (1988) study. For these reasons, it is deduced that for the present study, the Asian-Colonial area should include Singapore, Hong Kong, Indonesia, and the Philippines (SHKIP) which are located in the western Pacific Rim region.

Some countries in the north western Pacific Rim region should be included in Hofstede's more-developed Asian area for the following reasons. Korea, a Japanese colony from 1910 until 1945, adopted Japanese accounting practices influenced by commercial (code) law and business organizational structure (Cooke & Parker, 1994). AlHashim and Arpan (1992) report that legal requirements appear to be the most influential force in establishing accounting standards and procedures in Taiwan. Although promulgated in 1948, the influence of commercial accounting law on accounting practices in Taiwan may be traced to the business organizational structure and to the fact that Taiwan was under Japanese rule for some 40 years. Finally, Japan, Korea, and Taiwan (JKT) have been influenced in the post-World War II period by U.S. financial disclosure requirements. Although some countries included in the Asian-Colonial culture area for this study have been influenced by U.S. practices, prior research found that countries grouped into the more-developed Asian culture area for the current study differ significantly in their position on the cultural dimension continuum compared to countries included in the Asian-Colonial culture area (Maruyama, 1992; Lau, Low, & Eggleton, 1995; Williams & Tower, 1995; Windsor, Auyeung, & Heng, 1995; Auyeung & Sands, 1996).

This study has provided deductive reasoning to group specific countries in the north western Pacific Rim into the more-developed Asian area (JKT) and countries in the western Pacific Rim into the Asian-Colonial area (SHKIP). Justifications will now be provided to group specific countries in the eastern and southern Pacific Rim countries for this study.

In the southern Pacific Rim, Australia and New Zealand have developed economies initially influenced by their U.K. colonial history. Hofstede included them in the Anglo culture area. In recent times, both countries have been greatly influenced by U.S. accounting standards, but Cooke and Parker (1994) identify several accounting practices in Australia and New Zealand that differ from those in the United Kingdom and the United States. Eddie and Dowling (1995) illustrated these differences by comparing the reported income of several Australian companies using both U.S. and Australian GAAP. Furthermore, Tower and Perera (1989) indicated that the extension to the Australia-New Zealand Closer Economic Relations Trade Agreement (CER) in 1988 incorporated an agreement to harmonize regulatory policies, including company legislation and accounting standards (Park & Dagwell, 1996, p. 67). According to Locke and Tower (1995), accounting standards in Australia and New Zealand were reviewed by Tower and Perera, who "noted that with only a few exceptions they [the standards] are very similar" (p. 80). Thus, the historical ties and free trade agreement between Australia and New Zealand support the conclusion that these two countries should be included in the Anglo-Colonial southern Pacific Rim group, not the USCM group.

Nobes' (1984) model for classifying accounting systems was used by Choi and Mueller (1992) to illustrate the influence of the United States on Canadian and Mexican accounting practices. Furthermore, the North American Free Trade Agreement (NAFTA) between

the United States, Canada, and Mexico will cause accounting practices among these three countries to become even more similar. Therefore, these three countries should form the eastern Pacific Rim group (USCM).

This study therefore examines the perceptions of academics as to the importance of international accounting topics in four culture areas: the north western Pacific Rim — more-developed Asian area (JKT), the western Pacific Rim — Asian-Colonial area (SHKIP), the southern Pacific Rim — Anglo-Colonial area (ANZ), and the eastern Pacific Rim — the U.S.-influenced area (USCM). An analysis of responses from academics in these four areas is consistent with the objective of this investigation, which is to identify any significant differences in the perceived importance of international accounting topics that may be attributed to the effect of cultural values, institutional consequences, or international influences on accounting practices in each area.

PARTICIPANTS AND RESEARCH METHODOLOGY

This study surveyed 360 accounting academics in the Asia-Pacific region who are either members of the International Accounting Section of the American Accounting Association or the International Accounting Group of the Accounting Association of Australia and New Zealand, or both. As stated, the Asia-Pacific Rim includes the west coast of the United States, Canada, and Mexico based on academic literature, the general press, and international trade organizations (such as APEC). The participants were selected because of their obvious academic or professional interest in international accounting issues.

The questionnaire used to collect the necessary data required the participants to indicate anonymously their perceptions of each of 35 topics on a 7-point Likert-type scale, ranging from 1 (not important) to 7 (very highly important). This instrument design is similar to that of 5-point Likert scale instruments used in prior research (e.g., Sherman, 1987; Herremans & Wright, 1992a, 1994) and similar to the terminology used by Sherman. To avoid order bias, these 35 topics were listed randomly in the questionnaire, not alphabetically as in the Sherman study and not according to Agami's (1983) order of frequency of appearance in syllabi. The anonymity of participants was considered important to ensure that the responses were considered personal perceptions, not the official position of the participant's university, which could have unintended ramifications for participants in some political environments.

The 35 topics in the questionnaire were selected from prior research that used identical or similar titles for international accounting topics. Agami's (1983) 30 topics, which Sherman (1987) used, were included in the questionnaire in addition to five new topics. These five new topics included four topics or similar titles used by Burns (1979), Mintz (1980), and Herremans and Wright (1992a); the remaining topic was used by Foroughi and Reed (1987). It was considered appropriate to allow for "other" international accounting topics because these 35 topics had been used in studies conducted only in North America, New Zealand, and the United Kingdom. Therefore, respondents were given the opportunity to add up to three "other" topics to the questionnaire to identify additional topics perceived as important in their countries.

A total of 108 usable responses were received; this equates to a 30% response rate. The respondents either have taught or have an academic interest in international accounting

issues and therefore have informed opinions about the importance of specific international accounting topics. Demographic data collected indicate the mean age of respondents as 47.8 years with an age range of 29 to 71 years.

DATA ANALYSIS, RESULTS, AND DISCUSSION

According to Wallace and Mellor (1988), a nonparametric test, such as a Kolmogorov-Smirnov two sample, is appropriate for testing nonresponse bias. This nonparametric test was conducted for each area on early and late responses identified by using Buzby's (1974) method. The logic used is that nonrespondents have characteristics similar to those of late respondents (Oppenheim, 1968, p. 34). No significant differences were found for the early and late responses for each area.

Prior research has identified that the importance of topics differs for undergraduate accounting major and graduate nonaccounting major courses (Herremans & Wright, 1992a). An explanation for this finding may be that some topics differ in importance because the curricula consider the needs of students and future employers of graduates as suggested by Kubin (1973). Thus, there was an expectation that the perceived importance of topics may differ because of the respondents' experience or perspective in international accounting issues. The analysis of the data explaining the impact of such differences on the topics therefore was limited to topics that were found to be significant among the four areas examined in the study.[3] If such differences are identified within the areas, then significant results for this study could not be considered to be associated with regional differences alone.

Before examining the perceived importance of international accounting topics among areas by participants in the four areas, it is appropriate to compare visually in Table 2 the ranking of topics for USCM in this study with the rankings in studies by Agami (1983) and Sherman (1987). Table 2 also includes a combined ranking of the mean scores of all participants' responses for the current study. The purposes for comparing rankings is to consider the representativeness of this study's findings in comparison to prior research that used the same 30 topics and to determine whether further analysis is necessary according to the proposition by Gray (1988) discussed earlier in this article.

A preliminary visual comparison of data in Table 2 suggests that the rankings for the 30 topics for the current and two prior studies are similar. There are some variances for which there are several explanations. First, the importance of specific variables may have changed in the past 13 years; second, different research instrument designs were used in the prior studies. Furthermore, Agami's (1983) study includes three countries not in the other studies. Finally, one of the current study's purposes is to elicit responses from academics on the west coast of the United States, but Sherman's (1987) study included responses from academics throughout the United States.

On visual comparison, the rankings of these 35 topics based on the responses by the USCM area varied substantially from those based on the combined responses by the four areas (Table 2). As the basis of these rankings were the participants' mean responses of their perceived importance of each topic, and since there were apparent differences between the rankings, further examination of each topic across the four areas was necessary. One-way ANOVAs were performed across the four areas to test for significant

Table 2. Rankings of International Accounting Topics*

Topics	*Agami (1983)*	*Sherman (1987)*	*USCM of this Study*	*Four Areas of this Study*
History and Background of International Accounting	N/A	N/A	25	24
Comparative Standards and Harmonization of Accounting Standards	4	7	4	1
Accounting Standards and Practices in North America	20	9	8	9
Accounting Standards and Practices in Pacific Rim Countries	19	23	18	15
Accounting Standards and Practices in Selected Central American Countries	20	28	27	34
Accounting in Social & Communist Countries	17	29	34	35
Accounting Standards & Practices of European Community	8	13	12	16
Accounting in Developing Countries	12	27	26	28
International Accounting Standards	2	5	3	2
Uniform Accounting System	22	19	30	26
Governmental Regulations	22	12	29	25
Companies Laws	22	30	33	23
Managing Multinational Enterprises	25	22	6	6
Management Information Systems for Multinational Enterprises	16	15	21	18
Social Responsibility Accounting of Multinational Enterprises	13	25	22	19
Ethical Conduct of Multinational Enterprises	18	18	22	21
Financing of Multinational Enterprises	9	20	19	16
Controlling the Operations and Performance Evaluation of Subsidiaries	6	3	9	11
Reporting & Disclosure Problems of Multinational Enterprises	7	10	5	4
Consolidation	14	6	11	8
Branch Accounting	25	26	35	32
Costs and Benefits of Disclosure	25	14	16	20
Hidden Reserves	25	24	28	30
Analysis of Foreign Financial Statements	N/A	N/A	1	5
Cash and Working Capital Management	N/A	N/A	24	27
Foreign Investment Analysis	N/A	N/A	14	11
Transfer Pricing	11	4	7	7
International Taxation	3	11	10	14
Foreign Currency Transaction and Translation	1	1	2	3
Foreign Exchange Risk Management	9	17	13	13
Accounting for Forward Exchange Contracts	N/A	N/A	20	22
Accounting for Inflation	5	2	16	29
Accounting and Economic Planning	25	21	31	31
Internal Auditing	25	16	32	33
Auditing and Internationalization of the Accounting Profession	14	8	14	10

Note: *N/A = the topic was not included in that study.

differences in the perceived importance of each topic. Significant results were produced for 12 topics, as detailed in Table 3; these are discussed later in this article. To identify the reasons for the significant differences, the Duncan's multiple-range comparison follow-up test was performed for each of these 12 topics. The result of each follow-up test identifies the mean score for areas that do not differ significantly and combines these areas into a grouping. If there are significant differences among some areas then more than one grouping will be provided in the statistical output. Using the Underlining Method[4] described by Huck, Cormier, and Bounds (1974), the different groupings produced by the 12 Duncan's follow-up tests are presented in Table 3. Further *t* tests were performed within the JKT area between responses from Japan and Korea for these 12 topics and significant differences found are reported later. The number of responses from the Asian-Colonial area

Table 3. Duncan's Follow-up Groupings for Four Culture Areas in the Asia-Pacific Rim

International Accounting Topics	*Area Groupings*			
Comparative Standards and Harmonization of Accounting Standards	JKT	SHKIP	ANZ	USCM
Mean	6.347	6.000	5.710	5.586
Groupings				
Accounting Standards and Practices in North America	JKT	USCM	SHKIP	ANZ
Mean	5.319	5.276	4.750	4.323
Groupings				
Accounting Standards and Practices in Selected Central American Countries	USCM	JKT	ANZ	SHKIP
Mean	4.172	3.819	3.032	2.750
Groupings				
Accounting Standards and Practices of European Community	JKT	USCM	ANZ	SHKIP
Mean	4.986	4.966	4.452	4.000
Groupings				
Companies Laws	JKT	ANZ	SHKIP	USCM
Mean	5.186	4.6000	4.083	3.821
Groupings				
Consolidation	SHKIP	JKT	USCM	ANZ
Mean	5.417	5.403	5.034	4.323
Groupings				
Branch Accounting	JKT	SHKIP	USCM	ANZ
Mean	4.486	4.417	3.397	3.097
Groupings				
Cash and Working Capital Management	SHKIP	JKT	USCM	ANZ
Mean	5.333	4.542	4.293	3.968
Groupings				
International Taxation	SHKIP	JKT	USCM	ANZ
Mean	5.417	5.097	5.086	4.065
Groupings				
Foreign Currency Transaction and Translation	JKT	SHKIP	USCM	ANZ
Mean	5.903	5.818	5.672	4.935
Groupings				
Foreign Exchange Risk Management	SHKIP	JKT	USCM	ANZ
Mean	5.750	5.014	4.966	4.161
Groupings				
Accounting for Inflation	USCM	SHKIP	JKT	ANZ
Mean	4.691	4.250	4.069	3.484
Groupings				

Notes: USC M = The United States, Canada, and Mexico (n = 29)
SHKIP = Singapore, Hong Kong, Indonesia, and the Philippines (n = 12)
JKT = Japan, South Korea, and Taiwan (n = 36)
ANZ = Australia and New Zealand (n = 31)

prevented any further meaningful analysis for that area. To establish whether these differences were influenced by the type of degree (accounting or nonaccounting major) or the level of the studies (undergraduate or graduate) on these 12 topics, *t* tests and ANOVAs were conducted, respectively; no significant differences were found. Possible reasons for these variances will be discussed in the order that these topics appear in Table 3.

A significant result (F value = 3.30, $p = 0.0234$) was obtained for the topic comparative standards and harmonization of accounting standards. The groupings of areas illustrated in Table 3 indicate that JKT perception of this topic's importance differs significantly from those for USCM but is similar to SHKIP which in turn is not significantly different to ANZ. This pattern of importance parallels Hofstede's (1980) findings for the level of uncertainty avoidance cultural dimension for countries in each area.[5] It therefore may be deduced that the desire for uniformity by respondents in JKT and to a lesser extent in SHKIP and ANZ influences their perception of the relative importance of this topic.

A significant result (F value = 4.58, $p = 0.0047$) was obtained for the topic accounting standards and practices in North America. The groupings in Table 3 illustrate that responses from JKT and USCM differ from those from ANZ. An analysis of the countries within JKT showed that only Japanese respondents perceived this topic to be highly important; the other countries in that area perceived this topic to be similar in importance to respondents in ANZ. International and institutional influences such as economic/political ties suggested by Mueller et al. (1987) and the requirements of the Security Exchange Commission for Japanese companies listed on the stock exchange in the United States may have contributed to this topic's perceived importance by Japanese respondents.

For the topic accounting standards and practices in selected central American countries, a significant result (F value = 4.64, $p = 0.0044$) was found. Two distinct groupings are indicated in Table 3, one consisting of USCM and JKT and the other of ANZ and SHKIP. Further analysis was performed for responses from JKT and again, only Japanese respondents indicated that this topic was important. The remaining respondents in JKT considered the topic less important than the SHKIP respondents did. This result may reflect the Japanese investment in South America.

The fourth significant result (F value = 2.82, $p = 0.0427$) is found for accounting standards and practices of the European Community. Table 3 shows that the perceived importance of this topic differed significantly for respondents in JKT and USCM from those in ANZ. Again, further analysis of JKT respondents found that Japanese respondents perceived this topic to be more significant than those in Korea and Taiwan. The importance of this topic may be linked to economic, political, and historical ties especially the influence of prescriptive Germanic-type code law on the accounting practices imposed by taxation law in Japan.

For the topic companies laws, a significant result (F value = 6.65, $p = 0.0004$) was found. Results in Table 3 place respondents from JKT and USCM in separate groupings. The relatively high importance of this topic to participants in JKT may be attributed to the strong influence of accounting values, statutory control, and uniformity found by Gray (1988) for Hofstede's more-developed Asian area. Gray attributed these strong influences to the collectivism and large power distance societal values that exist within the more-developed Asian area that also is characterized by strong uncertainty avoidance behavior. The perceived low importance of this topic to respondents in USCM is consistent with Gray's findings that place this area at the other end of the continuum of these two account-

ing values (i.e., professionalism and flexibility). The financial reporting requirements in ANZ and SHKIP are influenced by corporations/companies laws similar to those in the United Kingdom (Cooke & Parker, 1994).

A significant result (*F* value = 6.10, $p = 0.0007$) was found for consolidation. Results reported in Table 3 indicate two distinct groupings. One grouping represents ANZ whose respondents perceived this topic to be of relatively lower importance than respondents in the other grouping, which consisted of the remaining areas. In the other grouping, respondents from SHKIP and JKT perceived consolidation to be a relatively more important topic. The collectivism cultural societal values of the countries in both areas has resulted in most companies being privately owned and exempt from financial reporting requirements, including consolidation.[6] The collective nature of ownership and corporate structure has restricted the application of the consolidated statement for JKT as compared to ANZ and USCM. The perceived importance of this topic may reflect the need for developing countries to consolidate their accounts to be able to list on the U.S. stock market. For example, the growth of Japanese MNCs and their need to list on the New York Stock Exchange were of considerable importance in stimulating the development of consolidated accounts in Japan (Cooke & Parker, 1994).

The seventh significant result (*F* value = 6.79, $p = 0.0003$) was found for the topic branch accounting. The result of the follow-up test produced two separate groupings (Table 3). The grouping representing JKT and SHKIP indicates that these participants perceive this topic as more important than the other grouping consisting of USCM and ANZ. As the underlying cultural value in these countries, collectivism results in many privately owned companies that use debt and credit financing for their domestic and overseas operations provided by closely related companies. Thus, Hofstede's (1980) societal value as well as Mueller et al.'s (1987) institutional influence (i.e., the relationship between business and the capital providers) are suggested as reasons for the importance of this topic in these countries. Furthermore, the level of foreign investment and the number of foreign companies listed on local stock exchanges and of joint ventures in many of these Asian countries may be considered to be economic ties as Mueller et al. suggested as an influencing variable or international influence as described by Gray (1988).

The topic cash and working capital management is the next significant result (*F* value = 3.15, $p = 0.0280$). The two groupings that result from the Duncan's follow-up test appear in Table 3. This managerial accounting issue is perceived to be more important for SHKIP and may reflect the influence of the collectivism cultural societal value on private ownership of business as discussed for the two prior topics.

International taxation is the ninth significant result (*F* value = 4.39, $p = 0.0059$) for which the follow-up test produced two distinct groupings (Table 3). This topic is perceived less important by respondents from ANZ and may reflect the limited number of MNCs with headquarters in Australia and New Zealand. The absence of tax effect accounting in JKT due to the influence of taxation law on financial reporting in the countries in this area may have an impact on these respondents' perceived higher importance of this topic.

A significant result and two separate groupings occurred for the topics foreign currency transaction and translation (*F* value = 4.30, $p = 0.0067$) and foreign exchange risk management (*F* value = 4.41, $p = 0.0058$). For both topics, ANZ is a separate grouping; the limited number of Australian and New Zealand MNCs may have influenced the respon-

dents from this area to perceive these two topics to be less important compared to the other three areas that form the other grouping for these two topics.

The high level of importance of the foreign currency transaction and translation topic to respondents from JKT may be attributed to the differences in the domestic standards practiced in countries in this area compared to the International Accounting Standard 21. According to Cooke and Parker (1994), this difference is particularly apparent in Japan where the accounting standard for foreign currency translation allows different accounting methods.[7] Furthermore, the wording of the six criteria under Australian Accounting Standards Board 1012, paragraph 17 implies that Australian financial report preparers emphasize determining whether self-sustaining operations exist (i.e., use the current rate method). In contrast, standards for countries in SHKIP, such as Singaporean Statement of Accounting Standard 20, recommend the use of the transaction method for an integrated subsidiary; other preparers should use the closing rate method.[8] The use of the current rate method specified in the Australian standard reduces the translation exposure on the profit and loss statement. This factor may have influenced the perceived importance of this topic for ANZ respondents. Prior research conducted on Australian financial report preparers has found a behavioral preference by Australian management for the current rate translation method (Huang, 1992).

Similarly, in regard to the topic foreign exchange risk management (FERM), the reduced accounting exposure via the translation method generally selected in Australia may have contributed to the consistent perceptions of FERM and for foreign currency transaction and translation as illustrated in Table 3. From a transaction perspective, the major trading partners for Australia and New Zealand are Japan, the United States, and the United Kingdom, which traditionally experience low levels of exchange rate volatility. Only one inconsistent result was obtained for these two topics; respondents from JKT perceived FERM to be of relatively lower importance than foreign currency transaction and translation.

Evans, Taylor, and Holzmann (1994) identify various traditional financial and operating management tools of FERM.[9] The business structures and relationships of companies in JKT are based, however, on the collective societal values that may restrict the use of these FERM tools. For example, Radebaugh and Gray (1993) explain how group consciousness, rather than a legal relationship, and the complex pattern of decentralized cross-holdings are the basis for Japanese groups (Keiretsu). The relationship of these groups is built on a system of cooperation based on mutual trust and loyalty. This relationship therefore may restrict the use of various FERM methods, such as the appropriate lead and lag practices for receivable and payable accounts, depending upon the movement of the denominated foreign currency for the transaction. The perceived lower importance of FERM therefore may be explained by this relationship. The greater impact of this collective societal value on JKT further supports the use of two separate culture areas, JKT and SHKIP.

Finally, a significant result (F value = 3.12, $p = 0.0291$) was found for the topic accounting for inflation. The follow-up test indicates that USCM results differed significantly only from those for ANZ. The extent of overseas operations by U.S.-based MNCs in countries that are experiencing high levels of inflation, such as South American countries and China, would be significantly greater than for MNCs based in Australia or New Zealand.

CONCLUSION

Generally, cultural values, institutional consequences, and international influences have a significant impact on the perceived relative importance of 12 topics taught in international accounting. The result of this study provides some support for Zarzeski's (1996) findings that local financial reporting practices for foreign companies, which operate only in the local market, are influenced by cultural values. Furthermore, the general conclusions that can be drawn from this study are consistent with those of Davidson, Gelardi and Li (1996) that regardless of the Western influence on another country's conceptual framework, differences due to cultural and institutional factors will result. It is anticipated that the findings of this study would be immensely useful to accounting educators who teach international accounting and to universities designing a new international accounting course or introducing an international accounting component into an existing accounting subject. Furthermore, these results provide useful guidance to investigators in future research as to the emphasis that should be placed on the causes of such differences so that this information can be used as supplementary teaching material. The significant differences in the findings of this study also may be useful to authors and publishers of international accounting textbooks to illustrate the need to increase the coverage so that extensive comparisons of accounting practices among countries in the Asia-Pacific Rim can be made. Alternatively, these findings may support the publication of additional texts that incorporate these comparisons regarding the perspectives of this important emerging region.

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NOTES

1. *Course* is used synonymously with *subject* or *unit*.
2. These factors include the relationship between business and providers of capital, political and economic ties with other countries, legal systems, level of inflation, and size and complexity of business enterprises, sophistication of management and the financial community, and general levels of education.
3. The analysis is considered necessary to determine the confounding effects, if any, that respondents' experience or perspective in international accounting issues may have on the topics that differ significantly in importance among the four areas.
4. The underlining method is used to identify from the Duncan's follow-up test the cultural areas of the current study that have means that do not significantly differ. Therefore areas underlined by the same line do not differ signifcantly in that topic's mean responses from those areas. Where areas are underlined by different lines then that topic's mean responses does differ significantly among the areas.
5. Hofstede (1980) provides the uncertainty avoidence indices for 40 countries with Japan, 92, and South Korea, 69, which represent the presence of a high level of uncertainty avoidence in these societies/countries whereas Indonesia, 48, the Philippines, 44, Hong Kong, 29, Singapore, 8, Australia, 51, and New Zealand, 49, have a relatively lower level of uncertainty avoidence. More recently, Williams and Tower (1995) found that Singaporean small business managers have an index value of 41 for certainty avoidance and therefore are closer to the other countries in the Asian-Colonial area. The comparison of the indices for Williams and

Tower and Hofstede (1980) is considered appropriate because both studies used business managers as their subjects.

6. Cooke and Parker (1994) indicate that, of the top 1,000 business corporations in the Philippines, only 60 are listed on the stock exchange. Similarly, Singapore and Hong Kong have approximately 200 publicly listed companies; 15 families dominate ownership of listed Hong Kong companies. In Korea, the consolidated financial statements are not the primary statements, although they have been in effect since January 1990 in Singapore and April 1991 in the Philippines.
7. Regardless of the translation method used in Japan, foreign branches must include any exchange difference in current income; foreign subsidiaries treat any difference as a deferred asset/liability whether the company uses a modified temporal method or the current rate method.
8. The terms used in SAS 20 differ from those used in the United States and Australia. The temporal and current rate methods used in the United States and Australia are similar to the transaction method and closing method respectively, as described in page 2 in the Foreward to SAS 20.
9. The traditional financial FERM tools are listed on page 300 of Evans et. al.'s (1994) text; the nonfinancial or opening FERM tools are discussed on page 307. Many of these tools are useful for an arm's length international transaction.

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The International
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International Accounting Research: An Analysis of Thirty-Two Years from the International Journal of Accounting

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Key Words: Accounting research; Bibliography; History; Research; Research methodology

Abstract: *This study provides a thirty-two year historical perspective of international accounting research by presenting an analysis of the articles that have appeared in the International Journal of Accounting (formerly, the International Journal of Accounting, Education, and Research) and related monographs during the time period 1965 through 1996. The International Journal of Accounting was chosen for this study because it has the longest continuous history of published research in international accounting. It consists of six sections following the introduction. The second section analyzes all 768 articles that have been published in the journal and related monographs. The next three sections analyze the 263 articles devoted to the European region, the 183 articles devoted to the pacific region, and the 126 articles devoted to countries classified by the World Bank (1990) as economically developing, respectively. The analyses in each section classify the articles by research methodology, country, subject, time periods, and authors. The last section contains the conclusion. A completed annotated bibliography of all 768 articles with indexes by author, topic, country, and methodology is available on disk from the author.*

INTRODUCTION

Thirty years ago research interest in international accounting was modest, but this domain has in the last decade become a major area of study. The objective of this paper is to establish a historical perspective by giving a profile of the research about international accounting published from 1965 to 1996 in a single international journal published in the United States — the *International Journal of Accounting* (formerly the *International Journal of Accounting*, *Education*, *and Research*). This research is classified by country, research methodology, subject, and five- or six-year time periods. This paper provides an update of prior research of the first twenty-five years of the journal's history.[1]

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SOURCE OF DATA

The *International Journal of Accounting* was chosen for this study because it has the longest continuous history of published research in international accounting. Although other journals have covered this field, especially in Europe, the International Journal of Accounting has been the only outlet for such research in the United States for most of the thirty-two years surveyed here. In his "Note from the Editor" in the first issue (Vol. 1, No. 1, Fall 1965), V. K. Zimmerman described the mission of the journal as being "To explore and identify the international dimension of accounting as it exists today." Assuming this statement to be true, the research published in this major source of international accounting research should reflect developments and changes in the attention given by researchers to various international subjects, countries, and methodologies. For most of the history of the journal, one issue per year has been devoted to the proceedings of the Seminar in International Accounting conducted annually at the University of Illinois. More recently, the proceedings have been published as separate monographs. Since the research represented in these proceedings represents, in effect, an extension of the journal, the articles in these monographs are covered by this study. Through 1996, 768 articles have been published in this journal and related monographs, including 263 devoted to the European region, 183 to the Asian Pacific region and 126 to countries classified by the World Bank (1990) as economically developing.[2]

CLASSIFICATION

The articles are classified according to research methodology and subject. Articles which use more than one methodology are classified according to the predominant approach followed. The research methods used to classify the articles are the following:

1. *Capital Markets*: Articles which utilize the stock market in some way to determine the effects of other factors
2. *Deductive Descriptive*: Articles primarily written as essays that are descriptive of current practice
3. *Empirical Descriptive*: Articles which make use of a survey or questionnaire
4. *Empirical Statistical*: Articles which involve the statistical analysis of empirically obtained data
5. *Historical*: Articles which focus on an area of current interest, but use an archival method, or trace the history of a subject
6. *Modeling*: Articles in which a model is developed
7. *Theoretical*: Articles which consist of a theoretical discussion of the topic

The classification of subjects is as follows:

Accounting Education
Accounting History
Accounting Theory
Auditing
Economics & Development
Information Systems
Managerial Accounting
Miscellaneous
Professional Development
Public Accounting

Financial Accounting & Reporting
Governmental
Social Effects of Accounting
Taxation

The study has been broken down into five time periods: 1965–1970, 1971–1975, 1976–1980, 1981–1985, 1986–1990, 1991–1996. (Note that six years are covered in the first and last time periods.)

OVERALL PROFILE OF INTERNATIONAL ACCOUNTING RESEARCH: 1965–1996

The objective of this monograph is to provide perspectives on accounting research related to international accounting during the period 1965 through 1996. To meet this objective, the following graphs and tables accompany this section:

Table 1 shows, by five- or six-year time period, the total number of articles in the *International Journal of Accounting*, the number of articles published on European, Asia-Pacific and Developing Countries, and the percentage of articles covered in each section in relation to the total.

Table 2 separates the articles into the countries to which they pertain. As noted, many articles deal with more than one country.

Table 3 shows the total articles by five-year time period. The percentages for subjects and time periods are indicated.

Table 4 divides the articles into subject, methodology, and five-year time period.

Table 5 is a comprehensive summary of articles by subject and methodology.

Table 6 lists the most referenced authors. All authors who have four or more published articles in the study are identified.

Table 7 separates the articles according to the author's affiliation.

As seen in Table 1, researchers gave strong attention to the European region over the entire time period. However, the level of interest in the Asian-Pacific region grew more rapidly over the last thirty years. The number of articles related to this region nearly grew more than 5 times from the 1965–1970 period to the last six-year period of 1991–1996, reaching a peak of 40% in 1986–1990. By way of comparison, the percentage of articles for Europe increased from 22% to 29% during the same time period. During the first six-

Table 1. Articles in the International Journal of Accounting

	Total Number of	*European*		*Asia/Pacific*		*Developing*	
Time Period	*Articles in the IJA*	*Articles*	*%*	*Articles*	*%*	*Articles*	*%*
1965–1970	102	22	22%	11	11%	18	18%
1971–1975	100	22	22%	11	11%	12	12%
1976–1980	131	53	40%	22	17%	14	11%
1981–1985	142	69	49%	32	23%	30	21%
1986–1990	121	47	39%	49	40%	27	22%
1991–1996	172	50	28%	58	34%	25	15%
Total	768	263	34%	183	24%	126	16%

Table 2. Articles by Country/Region-Comprehensive

	1965–70	*1971–75*	*1976–80*	*1981–85*	*1986–90*	*1991–96*	*TOTAL*	*Percentage of Total*
Africa	1		1	5	2		9	0.65%
Arab Countries				6		1	7	0.50%
Argentina			1	1			2	0.14%
ASEAN Countries			1			1	2	0.14%
Asia			1	1	2		4	0.29%
Asian Pacific	1						1	0.07%
Australia			9	11	9	10	39	2.86%
Austria	1						1	0.07%
Bangladesh					2	3	5	0.30%
Barbados					1		1	0.07%
Belgium				4	4	3	11	0.79%
Botswana				1			1	0.07%
Brazil	3	1	3	4		1	12	0.87%
Brunei					1	1	2	0.14%
Canada	1	2	14	18	12	11	58	4.16%
Central & South America	3	1	1	4	3	1	13	0.93%
Chile			2				2	0.14%
China	2	1	1	3	8	8	23	1.65%
Colombia			2				2	0.14%
Cook Islands					1		1	0.07%
Cyprus				1			1	0.07%
Czech Republic							1	0.07%
Denmark				1			1	0.07%
Developed Countries				2	1	1	4	0.29%
Developing Countries	6	4	1	4	1	6	22	1.58%
East Germany				2	1		3	0.22%
Eastern Block Countries			1		2	1	4	0.29%
Egypt	1		1	7	3	1	13	0.93%
Ethiopia		1					1	0.07%
Europe	6	4	7	6	8		31	2.22%
European Community				14	8	8	30	2.15%
Far East					1		1	0.07%
Fiji					1		1	0.07%
Finland	1					1	2	0.14%
France	2	2	7	7	5	5	28	2.10%
Germany	4	5	12	11	4	10	46	3.30%
Ghana			2				2	0.14%
Global				7	8	18	33	2.37%
Greece		2		1			3	0.22%
Guatemala					1		1	0.07%
Holland			1		1	1	3	0.22%
Hong Kong					4	10	14	1.00%
Hungary						1	1	0.07%
India	2			1	4	2	9	0.65%
Indonesia					5	2	7	0.50%
Inflationary Countries				1		1	2	0.14%
Iran			1	1			2	0.14%
Iraq				1	2		3	0.22%
Ireland				1			1	0.07%
Islamic Countries				1			1	0.07%
Israel	1	1	3	5	1		11	0.79%

(continued)

Table 2. (Continued)

	1965–70	*1971–75*	*1976–80*	*1981–85*	*1986–90*	*1991–96*	*TOTAL*	*Percentage of Total*
Italy		2		2	4	1	9	0.65%
Japan	2	5	5	6	12	15	45	3.23%
Jordan			1		1	1	3	0.22%
Kenya				1			1	0.07%
Kiribati					1		1	0.07%
Korea	1		1	2	2	2	8	0.57%
Kuwait			2	5	1		8	0.57%
Less Developed Countries			1		3		4	0.29%
Libya		1		1	1		3	0.22%
Luxembourg				1			1	0.07%
Malaysia				1	2	3	6	0.43%
Mexico		1	2	1	4		8	0.57%
Middle East			1	5	2	1	9	0.65%
Nauru					1		1	0.07%
Netherlands	2	3	6	5	3	5	24	1.72%
New Zealand	1	2	5	9	9	6	32	3.30%
Nigeria	1		1	2	1	1	6	0.43%
Niue					1		1	0.07%
None (Unknown)	40	41	30	3	6	6	126	9.04%
North America				1			1	0.07%
Norway				1			1	0.07%
Oceania			1				1	0.07%
Pakistan		1			2		3	0.22%
Panama		1			1		2	0.14%
Peru	1	1					2	0.14%
Philippines				2	3	2	7	0.50%
Poland		2	3	3	1	3	12	0.86%
Rumania				1			1	0.07%
Saudi Arabia		1	1	8	3	1	14	1.00%
Singapore					4	5	9	0.65%
Slovak Federal Republic							1	0.07%
Socialist Countries				1			1	0.07%
Solomon Islands				1	1		2	0.14%
South Africa			3	3	1	2	9	0.65%
South America				1	1		2	0.14%
South Korea		1			1		2	0.14%
Soviet Union (Russia)	2	3	5	5	4	4	23	1.65%
Spain				1		4	5	0.36%
Sudan				1			1	0.07%
Sweden	2	1	3		1	3	10	0.71%
Switzerland	1	1	2	2	2	2	10	0.71%
Syria			1	1			2	0.14%
Taiwan		1			2	5	8	0.57%
Thailand	3	1	1		2	2	9	0.65%
Third World	5			1		1	7	0.50%
Tonga					1		1	0.07%
Tunisia	1	1					2	0.14%
Turkey			1	1			2	0.14%
Tuvalu					1		1	0.07%
United Arab Emirates				2			2	0.14%
United Kingdom	4	2	32	37	26	22	123	8.82%

(continued)

Table 2. (Continued)

	1965–70	*1971–75*	*1976–80*	*1981–85*	*1986–90*	*1991–96*	*TOTAL*	*Percentage of Total*
United Nations	1					4	5	0.36%
United States	24	21	61	85	68	60	319	22.88%
Uruguay			1		1		2	0.14%
Vanautu					1		1	0.07%
Venezuela				1			1	0.07%
West Germany	2		2	3	1	2	10	0.71%
Western Samoa					1		1	0.07%
Yugoslavia			1	2			3	0.22%
Zambia				1			1	0.07%
Zimbabwe						1	1	0.07%
TOTAL	127	117	245	341	289	275	1394	100.00%

Note: * Some articles mention more than one country/region.

year period in which the journal was published twice as many articles concerning Europe appeared as those concerning the Asia-Pacific. By the last six-year period nearly the same number of articles were published about both regions. The level of interest in Developing Countries, however, followed a different pattern. While the percentage of Asia-Pacific articles to total articles increased from 11% to 34% over the entire time period the Developing Countries percentages decreased from 18% to 15%, after peaking at 22% in 1986–1990.

Table 2 shows that, among individual countries, the most attention has been given to the United States (319 articles), followed by the United Kingdom (123), Canada (58), Germany (46), Japan (45), France (28), the Netherlands (24), Russia (23), and China (23). Articles on Europe, in general, are represented in every time period and during the last fifteen years in particular, the European Community has been an important subject. While only 127 were articles published during 1965–1970, 275 were published in 1991–1996. The breadth of countries covered has also increased in the last fifteen years. Over the past fifteen years there has been a strong increase in the number of articles published about the Asian/Pacific countries of China, Hong Kong, Singapore, Malaysia, Taiwan, and Australia. In general, more authors attempted to take a global (whole world) perspective.

In subject coverage as shown by Table 3, financial accounting and reporting consistently received the most coverage with 32% of the total articles. During five of the six periods financial accounting and reporting was the most popular subject, peaking during 1976–1980 when it comprised 47% of the articles. Four other areas have received greater than 8% of the total coverage: accounting education (8%), accounting theory (12%), economics and development (11%), managerial accounting (8%).

Trends in the coverage of many subjects may also be noticed in Table 3. Of the fourteen subjects identified, interest in accounting theory appears to have the most significant change over the thirty-two year period. During 1965–1970; 26% of all articles concerned accounting theory, while during 1991–1996, 4% of the articles concerned this subject. Interest in auditing and managerial accounting, on the other hand, has steadily increased. Whereas in 1965–1970 auditing and managerial accounting each comprised 2% of the

Table 3. Classification by Subject and Time Period-Comprehensive

Years	*1965–1970*		*1971–1975*		*1976–1980*		*1981–1985*		*1986–1990*		*1991–1996*		*Total*	
Accounting Education	11	11%	10	10%	10	8%	6	4%	15	12%	7	4%	59	8%
Accounting History	0	0%	4	4%	2	2%	5	4%	5	4%	5	3%	21	3%
Accounting Theory	27	26%	17	17%	16	12%	14	10%	9	7%	7	4%	90	12%
Auditing	2	2%	3	3%	4	3%	9	6%	8	7%	20	12%	46	6%
Economics & Development	15	15%	12	12%	13	10%	19	13%	10	8%	18	10%	87	11%
Financial Accounting & Reporting	22	22%	18	18%	61	47%	49	35%	43	36%	56	33%	249	32%
Governmental	4	4%	0	0%	0	0%	4	3%	2	2%	0	0%	10	1%
Information Systems	0	0%	4	4%	1	0%	2	1%	1	0%	1	0%	9	1%
Managerial Accounting	2	2%	9	9%	10	8%	15	11%	10	8%	17	10%	63	8%
Miscellaneous	1	0%	2	2%	1	0%	1	0%	1	0%	12	7%	18	2%
Professional Development	6	6%	0	0%	0	0%	7	5%	11	9%	18	10%	42	5%
Public Accounting	7	7%	12	12%	7	5%	7	5%	2	2%	2	1%	37	5%
Social Effects of Accounting	3	3%	5	5%	6	5%	1	0%	3	2%	8	5%	26	3%
Taxation	2	2%	4	4%	0	0%	3	2%	1	0%	1	0%	11	1%
Total	102		100		131		142		121		172		768	
Percentage of Total	14%		14%		18%		19%		16%		22%		100%	

total articles published, by 1991–1996 auditing reached a level of 12% and managerial accounting formed 10% of the articles published.

Table 4 shows that deductive descriptive has been the predominant methodology used in every time period, starting in 1965–1970 when it was utilized in 54% of the articles. Table 5 summarizes the data in Table 4 by eliminating the time periods. Overall, 322 of the 768 articles, or 42%, use this methodology, and it has been employed in all subject areas. Empirical descriptive and theoretical are two other methodologies that have been used significantly, but they have reversed positions over the thirty-two years surveyed. The theoretical method was employed in 41% of all articles published during 1965–1970 but declined to 5% by 1991–1996. Empirical descriptive was only used in less than 4% of all articles in 1965–1970 but increased to almost 20% by 1986–1990, a level it held during 1991–1996.

One method that has gained strong exposure is the empirical statistical. During 1965–1975 no author employed this methodology but by the 1986–1990 period 16% of all articles were written using this method, and 24.4% used it in 1991–1996. The capital markets methodology, which was rarely used until 1991, was employed in 19 cases (11.0%) in the last six-year period. Modeling methodology have been used the least over the entire period with only 10 appearing. The historical methodology was used in only 26 cases.

Table 6 shows all of the authors, 36 in number, who presented at least four articles during the thirty-two year period. Three authors, Timothy S. Doupnik, Shawki M. Farag, and Belverd E. Needles, Jr., had seven articles. Five authors, Frederick D. S. Choi, M. Ali Fabrat, Shawki M. Farag, Bikki Jaggi, and Juan M. Rivera, had at least six articles, five authors had five articles, and twenty-three had four articles.

Table 4. Classification by Subject, Methodology, and Time Period-Comprehensive

	Capital Markets						*Deductive Descriptive*						*Empirical Descriptive*						*Empirical Statistical*					
Years	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*
Accounting Education							5	6	4	4	11	3		1	4	1	3	3						
Accounting History											1													
Accounting Theory			1				10	3	3	7	5			2	2	1	1				1			2
Auditing							1	1	1	5	3	5	1		2	3	2	5					3	9
Economics & Development		1			1	9	6	7	8	9	8	4		1		3					1	1		4
Financial Accounting & Reporting				2	1	8	17	9	26	24	12	15	1	2	17	8	9	15			3	9	12	14
Governmental							3			2	1					1	1							
Information Systems									1	1						1	1	1						
Managerial Accounting						1	1	3	5	7	2	2	1		2	1	3	5			1		1	7
Miscellaneous							1			1	1	9		1				1						2
Professional Development							4			4	6	7				1	1	3				2	2	3
Public Accounting							5	8	3	3		2	1	2	2	4	2				1			
Social Effects						1	1		5			4					1	1					1	1
Taxation							1	2		2	1	1												
Total	0	1	1	2	2	19	55	39	56	69	51	52	4	9	29	24	24	34	0	0	7	12	19	42
Percentage of Total By Period	0.0	1.0	0.8	1.4	1.7	11.0	53.9	39.0	42.7	48.6	42.1	30.2	3.9	9.0	22.1	16.9	19.8	19.8	0.0	0.0	5.3	8.5	15.7	24.4

	Historical						Modeling						Theoretical						Total					
Years	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*
Accounting Education						1							6	3	2	1	1		11	10	10	6	15	7
Accounting History		2	1	3	2	5								2	1	2	2		0	4	2	5	5	5
Accounting Theory	1								1			1	16	12	8	6	3	4	27	17	16	14	9	7
Auditing						1								2	1	1			2	3	4	9	8	20
Economics & Development			1										9	3	3	6	1	1	15	12	13	19	10	18
Financial Accounting & Reporting		1				1			2			2	4	6	13	6	9	2	22	18	61	49	43	56
Governmental													1			1			4	0	0	4	2	0
Information Systems														4					0	4	1	2	1	1
Managerial Accounting						1				2	1			6	2	5	3	1	2	9	10	15	10	17
Miscellaneous									1					1					1	2	1	1	1	12
Professional Development						4							2				2	1	6	0	0	7	11	18
Public Accounting			1										1	2					7	12	7	7	2	2
Social Effects		1											2	4	1	1	1		3	5	6	1	3	8
Taxation													1	2		1			2	4	0	3	1	1
Total	1	4	3	3	2	13	0	0	4	2	1	3	42	47	31	30	22	9	102	100	131	142	121	172
Percentage of Total																								768
By Period	1.0	4.0	2.3	2.1	1.7	7.6	0.0	0.0	3.1	1.4	0.8	1.7	41.2	47.0	23.7	21.1	18.2	5.2	100	100	100	100	100	100

Table 5. Classification by Subject & Methodology-Comprehensive

	Capital Markets		*Deductive Descriptive*		*Empirical Descriptive*		*Empirical Statistical*		*Historical*		*Modeling*		*Theoretical*		*Total*	
Subject	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*
Accounting Education			33	10.3	12	9.8			1	3.8			13	7.2	59	7.7
Accounting History			1	0.3					13	50.0			7	3.9	21	2.7
Accounting Theory	1	4.0	28	8.8	6	4.9	3	3.8	1	3.8	2	20.0	49	27.2	90	11.7
Auditing			16	5.0	13	10.6	12	15.0	1	3.8			4	2.2	46	6.0
Economics & Development	11	44.0	42	13.1	4	3.3	6	7.5	1	3.8			23	12.8	87	11.3
Financial Accounting & Reporting	11	44.0	103	32.2	52	42.3	38	47.5	2	7.7	4	40.0	39	21.7	249	32.4
Governmental			6	1.9	2	1.6							2	1.1	10	1.3
Information Systems			2	0.6	3	2.4							4	2.2	9	1.2
Managerial Accounting	1	4.0	20	6.3	12	9.8	9	11.3	1	3.8	3	30.0	17	9.4	63	8.2
Miscellaneous			12	3.1	2	1.6	2	2.5			1	10.0	1	0.6	18	2.3
Professional Development			21	6.6	5	4.1	7	8.8	4	15.4			5	2.8	42	5.5
Public Accounting			21	6.6	11	8.9	1	1.3	1	3.8			2	1.7	37	4.8
Social Effects	1	4.0	10	3.1	2	1.6	2	2.5	1	3.8			10	5.6	26	3.4
Taxation			7	2.2									4	2.2	11	1.4
Total	25	100	322	100	123	100	80	100	26	100	10	100	180	100	768	100

Table 6. Most Referenced Authors-Comprehensive

NAME	*# OF ARTICLES*
Doupnik, Timothy S	7
Farag, Shawki M	7
Needles Jr., Belverd E	7
Choi, Frederick D S	6
Fekrat, M Ali	6
Jaggi, Bikki	6
Radebaugh, Lee H	6
Rivera, Juan M	6
Ameiss, Albert P	5
Bloom, Robert	5
Jaruga, Alicja A	5
Ndubizu, Gordian A	5
Smith, Charles H	5
Agrawal, Surendra P	4
Al Hashim, Dhia D	4
Alnajjar, Fouad K	4
Amernic, Joel H	4
Bavishi, Vinod B	4
Berry, Maureen H	4
Chan, Anthony Moung-Yin	4
Dahmash, Naim H	4
Enthoven, Adolf J H	4
Evans, Thomas G	4
Gorelik, George	4
Gray, S J	4
Hagigi, Moshe	4
Kosiol, Erich E	4
Lefebvre, Chris J L	4
Linowes, David F	4
Luck, Wolfgang	4
Mueller, Gerhard G	4
Pomeranz, Felix	4
Schoenfeld, Hanns-Martin	4
Scott, George M	4
Skinner, R C	4
Zimmerman, V K	4

Table 7 identifies the affiliations of authors who have published at least two articles over the thirty-two year period. Of the ten affiliations responsible for the most articles, five are U.S. universities, two are European universities, two are public accounting firms and one is an Asian-Pacific university. With 45 articles, writers affiliated with the University of Illinois at Urbana-Champaign appeared most frequently.

This section provides an overall profile of international accounting research for the years 1965 to 1996 as it appeared in the *International Journal of Accounting*. While the early years focused primarily on countries in North America and Europe, recent years saw a greater geographical breath of countries represented in the research. This is especially true of Asia/Pacific countries. Financial accounting and reporting was a popular subject in all periods. Accounting theory declined as a subject of interest over the period in favor of a more diverse set of practical topics such as accounting education, economics and devel-

Table 7. Articles by Affiliation-Comprehehnsive

	1965–70	*1971–75*	*1976–80*	*1981–85*	*1986–90*	*1991–96*	*Total*
University of Illinois at Urbana-Champaign	19	8	7	8	2	1	45
University of South Carolina	1		3	1	5	3	13
University of Notre Dame		2		3	4	3	12
Deloitte & Touche	4	2	2	1	1	1	11
Chinese University of Hong Kong					4	6	10
University of Delaware	1		1	5	3		10
Indiana University	2	1	4	2			9
University of Birmingham, England		1	2	5	1		9
University of Lodz, Poland		3	4	1		1	9
Price Waterhouse & Co	2	2		4			8
University of Texas at Austin	2	5	1				8
DePaul University		1			3	4	7
Pennsylvania State University		2	2	1	2		7
University of Otago, New Zealand		2	1		2	2	7
Coopers & Lybrand		2	2	2			6
University of British Columbia		3	2			1	6
University of Florida	1	3	2				6
University of Nebraska		1	2	3			6
University of Toronto				4	2		6
University of Washington	2	1	1	1	1		6
Victoria University of Wellington, New Zealand			2		2	2	6
Drexel University		1			2	2	5
Georgetown University			1	2	1	2	6
Katholieke Universitiet Leuren, Belgium				2	2	1	5
New York University	2		1	2			5
Northern Illinois University		3			1	1	5
State University of New York at Binghamton	1	2	2				5
Tel Aviv University			1	3		1	5
Texas A & M University		2			1	2	5
University of California at Berkeley	2		1		1	1	5
University of Jordan			1	2		2	5
University of Missouri at St. Louis	1	3	1				5
University of New South Wales, Australia			1	3	1		5
University of Oregon	1	1	2			1	5
University of Paris			2	2	1		5
University of Saskatchewan, Canada			2	1	1	1	5
Wayne State University					2	3	5
Arizona State University		3	1				4
Boston University					4		4
Cairo University, Egypt	4						4
California State University at Northridge			2	2			4
Caterpillar Tractor Co	3			1			4
Florida International University			1	2	1		4
Free University of Berlin	4						4
John Carroll University				2	2		4
Massey University, New Zealand					2	2	4
McGill University, Canada			3	1			4
Memphis State University				2	1	1	4
Monash University, Australia	1			1	2		4
Nanyang Technological Institute, Singapore					2	2	4
Oklahoma State University				2	1	1	4
San Jose State University	1	3					4

(continued)

Table 7. (Continued)

	1965–70	*1971–75*	*1976–80*	*1981–85*	*1986–90*	*1991–96*	*Total*
University of Connecticut			1	3			4
University of Georgia			1	2	1		4
University of Manchester, England			1	2		1	4
AICPA	2	1					3
Boston College						3	3
City Polytechnic of Hong Kong						4	4
San Diego Sate University				1	2		3
Stanford University			2			1	3
University of Denver		2				1	3
University of Hawaii at Honolulu		2	1				3
University of Illinois at Chicago						3	3
University of Michigan	1	2					3
University of Pennsylvania	2	1					3
University of Petroleum & Minerals, Saudi Arabia			1	2			3
University of Southampton, England			1	2			3
University of Southern California		1	2				3
Virginia Commonwealth University					3		3
Wichita State University			3				3
Accounting Consultant	2						2
California State University at Fresno					2		2
Fordham University					2		2
Gadjah Mada University, Indonesia					2		2
Jerusalem School of Bus. Admin., Hebrew Univ.			2				2
Kuwait University				2			2
Middle Tennessee State University						2	2
Moorhead State University				2			2
North Dakota State University						2	2
North Texas State University				2			2
Oakland University, Michigan						2	2
Purdue University, Calumet						2	2
Queens College, City Univ. of New York				2			2
Simon Fraser, British Columbia						2	2
Southern Connecticut State University						2	2
Southern Illinois University-Carbondale						2	2
University of Colorado	2						2
University of Leeds, United Kingdom						2	2
University of Lowell					2		2
University of Miami					2		2
University of Munich			2				2
University of Newcastle, Australia						2	2
University of Richmond					2		2
University of Windsor					2		2
University of Zimbabwe					2		2
University of Zurich	2						2
Vrije Universiteit, The Netherlands						2	2
Waseda University, Japan						2	2
Yale University	2						2
Hitotsubashi University, Japan	2						2
Affiliations with 1 article in the period	40	50	76	94	99	133	492
TOTAL	109	117	156	182	180	213	957

opment, auditing, and managerial accounting. Research methods have expanded over time with less emphasis on deductive descriptive and theoretical and more emphasis on empirical descriptive and empirical statistical. More than eighty individuals have contributed two or more articles to the journal over the years. In the following sections, the profile of research related to European countries, Asian/Pacific countries, and developing countries is examined.

PROFILE OF ACCOUNTING RESEARCH ON EUROPEAN COUNTRIES: 1965–1996

This section places research about the European region in historical perspective by giving a profile of research which were published about this region from 1965 to 1996 in The International Journal of Accounting. This research is classified by country, research methodology, subject, and five-year time periods. There are two indexes of the 263 articles published about European countries, first, of country and methodology, and, second, of subject.

Those countries classified, for purposes of this study, as European are as follows:

Europe (in general)	Ireland
Austria	Italy
Belgium	Luxembourg
Denmark	Malta
East Germany	Netherlands
Poland	Norway
Eastern Bloc Countries	Rumania
European Economic Community	Soviet Union (Russia)
Finland	Spain
France	Sweden
Germany/West Germany	Switzerland
Greece	United Kingdom
Hungary	Yugoslavia

To provide perspectives on accounting research related to the European region during the period 1965 through 1996, the following graphs and tables are presented in this section:

Table 8 shows, by five-year time period, the total number of articles in *The International Journal of Accounting*, the number of European articles published, and the percentage of European articles in relation to the total.

Table 9 separates the European articles into the countries to which they pertain. As noted, many articles deal with more one country.

Table 10 shows the total articles by five-year time period. The subject and time-period percentages are disclosed.

Table 11 divides the articles into subject, methodology, and five-year time period.

Table 12 divides articles into subject and methodology.

Table 13 lists the most referenced authors, covering all who have published two or more articles.

As seen in Table 8, researchers gave attention to the European region over the thirty-two years, but this interest increased beginning in the 1976–1980 period, before declining recently. The percentage of European articles to total articles increased from 22% in the first two five-year time periods to a peak of 49% in 1981–1985. This figure dropped in the most recent time period to 29%. Twenty-two articles in *The International Journal of Accounting* were devoted to European countries in each of the first two five-year periods; the total increased to fifty-three (141% increase) 1981–1985. The number of articles dropped to fifty in 1991–1996, a 38% drop in the percentage of articles published on Europe over ten years. Still, twice as many articles on Europe were published in 1991–1996 as at the start of the thirty-two year period.

Table 9 shows that among European countries most attention has been given by researchers to the United Kingdom (123 articles), followed by Germany (58), France (28), Netherlands (24), and former Soviet Union (Russia, 23). Articles on Europe, in general, are represented by every time period and during the last ten years the European Economic Community, the European Community, and the European Union have been important subjects. The breadth of countries covered has also increased. Articles have appeared on Belgium, Denmark, East Germany, Finland, Greece, Hungary, Luxembourg, Malta, Spain, Norway, Rumania, and Yugoslavia. Moreover, several articles on Central and Eastern Europe countries have appeared over the entire period with articles on the former Soviet Union (Russia) and Poland predominating.

In subject coverage of European countries, as shown by Table 10, five areas have been written about during all six time periods: accounting education, accounting theory, economics and development, financial accounting and reporting, and public accounting. Financial accounting and reporting accounts for more than 40% of the articles. The period of 1981–1985 featured the most subjects (thirteen out of the fourteen possible). The number of subjects published over the five-period coverage forms something like a bell-shaped curve, beginning with seven in 1965–1970, increasing to ten in 1971–1975, taking a slight dip to nine in 1976–1980, increasing to a peak of thirteen in 1981–1985, and decreasing to ten in 1986–1990, the figure at which it stayed in 1991–1996.

Trends in the coverage of many subjects related to European countries may also be seen in Table 10. After reaching a high in 1986–1990 (13% of the articles), accounting

Table 8. European Articles in the *International Journal of Accounting*

Time Period	*Total Number of Articles in IJA*	*European Articles*	*% of European Articles in IJA*
1965–1970	102	22	22%
1971–1975	100	22	22%
1976–1980	131	53	40%
1981–1985	142	69	49%
1986–1990	121	47	39%
1991–1996	172	50	29%
TOTAL	**768**	**263**	**34%**

Table 9. Articles by Country-European Region

	1965–70	*1971–75*	*1976–80*	*1981–85*	*1986–90*	*1991–96*	*Total*	*Percentage of Total*
Europe (general)	6	4	7	20	16	8	61	15.21%
Austria	1						1	0.25%
Belgium				4	4	3	11	2.74%
Czech Republic						1	1	0.25%
Denmark				1		1	2	0.50%
East Germany				2	1		3	0.75%
Eastern Bloc Countries			1		2	1	4	1.00%
Finland	1					1	2	0.50%
France	2	2	7	7	5	5	28	6.98%
Germany/W. Germany	6	5	14	14	7	12	58	14.46%
Greece		2		1			3	0.75%
Hungary						1	1	0.25%
Ireland				1			1	0.25%
Italy		2		2	4	1	9	2.24%
Luxemburg				1			1	0.25%
Malta					3		3	0.75%
Netherlands	2	3	7	5	2	5	24	5.99%
Norway				1			1	0.25%
Poland		2	3	3		3	11	2.74%
Rumania				1			1	0.25%
Slovak Federal Republic						1	1	0.25%
Soviet Union	2	3	5	5	4	4	23	5.74%
Spain				1		4	5	1.25%
Sweden	2	1	3		1	3	10	249%
Switzerland	1	1	2	2	2	2	10	2.49%
United Kingdom	4	2	32	37	26	22	123	30.67%
Yugoslavia			1	2			3	0.75%
Total	**27**	**27**	**82**	**110**	**77**	**78**	**401**	**100%**

Note: * some articles mention more than one European country

education dropped back to 2% in 1991–1996. Managerial accounting increased in percentage to 11% in 1986–1990, and dropped to 10% in 1991–1996. Professional development doubled in percentage from 3% to 6% in 1986–1990, and stayed at that level in 1991–1996. Public accounting, on the other hand, steadily decreased over the six time periods (18% to 17% to 11% to 6% to 2%, in both of the most recent periods). Taxation often appears to be neglected as a subject, fluctuating back and forth between zero articles and a small percentage of the total (0% in 1965–1970, 9% in 1971–1975, 0% in 1976–1980, 3% in 1981–1985, and 0% again in both 1986–1990 and 1991–1996).

Table 11 shows that deductive descriptive has been the predominant methodology followed in articles published about European countries, in 1965–1970 when it was used in 64% of the articles. Overall, 120 of the 263 articles, or 46%, use this methodology, with all subjects except accounting history and information systems employing it. (Note that the combined number of articles written regarding these latter two topics is only eleven.) Empirical descriptive and empirical statistical are two other methodologies that have been used in all five time periods. Capital markets and modeling methodologies have been used the least. Empirical statistical did not begin to be employed until 1976–1980, and since

Table 10. Classification by Subject & Time Period-European Region

Years	*1965–70*		*1971–75*		*1976–80*		*1981–85*		*1986–90*		*1991–96*		*Total*	
Subject	*No*	*%*	*No*	*%*	*No*	*%*	*No*	*%*	*No*	*%*	*No*	*%*	*No*	*%*
Accounting Education	1	5	1	5	1	2	1	1	6	13	1	2	11	4.2
Accounting History			1	5			4	6			2	4	8	1.7
Accounting Theory	7	31	2	9	3	6	8	2	3	6	3	7	26	9.9
Auditing	2	9			2	4	2	3			4	8	10	3.8
Economics & Development	1	5	1	5	3	6	10	15	4	9	7	14	26	9.9
Financial Accounting & Reporting	6	27	6	27	31	58	27	39	21	45	18	36	109	41.4
Governmental							2	3	2	4			4	1.5
Information Systems			2	9			1	1					3	1.1
Managerial Accounting			2	9	4	7	5	7	5	11	5	10	21	8.0
Miscellaneous					1	2			1	2	6	12	8	3.0
Professional Development	1	5					2	3	3	6	3	6	9	3.4
Public Accounting	4	18	4	17	6	11	4	6	1	2	1	2	20	7.6
Social Effects of Accounting			1	5	2	4	1	1	1	2			5	1.9
Taxation			2	9			2	3					4	1.5
Total	22	100	22	100	53	100	69	100	47	100	50	100	263	100

then it has been used in an average of ten articles for each five-year period. Financial accounting and reporting and public accounting show the greatest number of approaches used, in each case five of the seven methodologies.

Table 13 shows all authors, twenty-one in number, who published at least three articles on European countries during the thirty-two year period. Five authors — Alicja A. Jaruga, Fouad K. Alnajjar, Robert Bloom, S.J. Gray, and Wolfgang Luck — have had at least four articles, and sixteen authors had three articles.

PROFILE OF ACCOUNTING RESEARCH ON ASIAN/PACIFIC COUNTRIES: 1965–1996

This section examines research about the Asian/Pacific region by presenting a profile of the 183 articles about this region published from 1965 to 1996 in *The International Journal of Accounting* (formerly, *The International Journal of Accounting, Education and Research*) and related publications. This research is classified by country, research methodology, subject, and five-year time periods.

Those countries, for purposes of this study, classified as Asian/Pacific are as follows:

*Asia (in general)
*ASEAN Countries
*Australia
*Bangladesh
*Brunei
*China
*Cook Islands
*Far East
*Fiji
*Hong Kong
*Nauru
*New Zealand
*Niue
*Oceania
*Pakistan
*Philippines
*Singapore
*Solomon Islands
*South Korea
*Taiwan

Table 11. Classification by Subject, Methodology, & Time Period-European Region

	Deductive Descriptive						*Empirical Descriptive*						*Empirical Statistical*						*Historical*						*Theoretical*						*Capital Markets*						*Totals*					
Years	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*
Accounting Education		1	1	1	4						1	1													1				1								1	1	1	1	6	1
Accounting History																				1		3		3				1									0	1	0	4	0	3
Accounting Theory	4	1	2	3	1						1							1							3	1	1	5	1	1							7	2	3	8	3	3
Auditing	1		1	1		1	1			1		1			1			1						1													2	0	2	2	0	4
Economics &																																										
Development	1		3	3	4	1				3						1		2								1		3		1						3	1	1	3	10	4	7
Financial Accounting																																										
& Reporting	5	4	16	13	5	9			10	5	4	6				4	5	2							1	2	5	4	7							2	6	6	31	27	21	18
Governmental				1	1					1	1																										0	0	0	2	2	0
Information Systems										1																2											0	2	0	1	0	0
Managerial Accounting		1	1	2	1				1			3			1		1	1						1													0	2	4	5	5	5
Miscellaneous					1	5																															0	0	1	0	1	5
Professional																																										
Development	1			2	2	2											1							1`													1	0	0	2	3	3
Public Accounting	2	3	2	2		1	1	1	2	2	1				1						1				1												4	4	6	4	1	1
Social Effects			2																	1								1	1								0	1	2	1	1	0
Taxation		1		1																						1		1									0	2	0	2	0	0
Total	14	11	28	29	19	19	2	1	13	13	8	11	0	0	3	5	7	7	0	2	1	3	0	6	6	8	7	18	12	2						5	22	22	53	69	47	50
Percentage of Total By Period	64	50	54	43	41	38	24	23	65	81	54	22	0	0	6	7	15	14	0	9	2	4	0	12	27	36	13	26	26	4						11	100	100	100	100	100	100

Table 12. Classification by Subject & Methodology-European Region

Subject	Capital Markets		Deductive Descriptive		Empirical Descriptive		Empirical Statistical		Historical		Modeling		Theoretical		Total	
	No.	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*
Accounting Education			7	5.8	2	4.2							2	3.8	11	4.2
Accounting History									7	58.3			1	1.9	8	3.0
Accounting Theory			11	9.2	1	2.1	1	4.5					12	22.6	25	9.5
Auditing			4	3.3	3	6.4	2	9.1	1	8.3					10	3.8
Economics & Development	3	60.0	12	10.0	3	6.4	3	13.6					5	9.4	26	9.9
Financial Accounting & Reporting	2	40.0	52	43.3	25	53.2	11	50.0					19	35.8	109	41.4
Governmental			2	3.3	2	4.2									4	1.5
Information Systems					1	2.1							2	3.8	3	1.1
Managerial Accounting			5	4.2	4	6.4	3	13.6	3	25.0	1	50.0	7	13.2	21	8.0
Miscellaneous			6	5.0							1	50.0			8	3.0
Professional Development			7	5.8			1	4.5	1	8.3					9	3.4
Public Accounting			10	8.3	7	14.9	1	4.5	1	8.3			1	1.9	20	7.6
Social Effects			2	1.7									2	3.8	5	1.9
Taxation			2	1.7									2	3.8	4	1.5
Total	5	100	120	100	48	100	22	100	12	100	2	100	53	100	263	100

Table 13. Most Referenced Authors-European Region

NAME	*# OF ARTICLES*
Jaruga, Alicja A.	5
Alnajjar, Fouad K.	4
Bloom, Robert	4
Gray, S. J.	4
Luck, Wolfgang	4
Agrawal, Surendra P.	3
Ameiss, Albert P.	3
Berry, Maureen	3
Choi, Frederick D.S.	3
Debessay, Araya	3
Doupnik, Timothy S.	3
Gorelik, George	3
Hassan, Naim	3
Lefebvre, Chris J.L.	3
McComb, Desmond	3
Meek, Gary	3
Most, Kenneth	3
Needles, Belverd E., Jr.	3
Niehus, Rudolph J.	3
Rivera, Juan M.	3
Tondkar, Rasoul H.	3

*India
*Indonesia
*Japan
*Kiribati
*Korea
*Malaysia
*Thailand
*Tonga
*Tuvalu
*Vanautu
*Western Samoa

The following graphs and tables are provided in this section:

Table 14 shows, by time period, the total number or articles in *The International Journal of Accounting*, the number of Asian/Pacific articles published, and the percentage of Asian/Pacific articles in relation to the total.
Table 15 separates the Asian/Pacific articles into the countries to which they pertain. As noted, many articles deal with more than one country.
Table 16 totals the articles per period. The subject and time period percentages are disclosed.
Table 17 divides the articles into subject, methodology, and time period.
Table 18 divides articles into subject and methodology.
Table 19 lists the most referenced authors. All authors who have two or more published articles in the study are disclosed.

Researchers have given increased attention to the Asian/Pacific region throughout the thirty-two year period covered in this study. From 1965–1970, eleven articles in *The International Journal of Accounting* were devoted to Asian/Pacific countries. The number of

Table 14. Articles in the International Journal of Accounting-Asian/Pacific Region

Time Period	Total Number of Articles in IJA	Asian/Pacific Articles	% of Asian/Pacific Articles in IJA
1965–1970	102	11	11%
1971–1975	100	11	11%
1976–1980	131	22	17%
1981–1985	142	32	23%
1985–1990	121	49	40%
1991–1996	172	58	34%
TOTAL	**768**	**183**	**24%**

articles remained the same during 1971–1975, but in 1976–1980 it rose to twenty-two (a 100% increase). In 1981–1985, thirty-two articles about Asian/Pacific countries were published (a 45% increase) and in 1986–1990, forty-nine articles were published (a 53% increase). Table 14 lists the number of articles in the Asian/Pacific region published in each

Table 15. Articles by Country-Asian/Pacific Region

	1965–1970	1971–1975	1976–1980	1981–1985	1986–1990	1991–1996	Total
Asia (in general)			1	1	2		4
ASEAN Countries			1			1	2
Asian Pacific						1	1
Australia			9	11	9	8	37
Bangladesh					2	2	4
Brunei					1		1
China	2	1	1	3	8	8	23
Cook Islands					1		1
Far East					1		1
Fiji					1		1
Hong Kong					4	11	15
India	2			1	4	2	9
Indonesia					5	2	7
Japan	2	5	5	6	12	15	45
Kiribati					1		1
Korea	1		1	2	2	3	9
Malaysia				1	2	3	6
Nauru					1		1
New Zealand	1	2	5	9	9	7	33
Niue					1		1
Oceania			1				1
Pakistan		1			2		3
Philippines				2	3	2	7
Singapore					4	5	9
Solomon Islands				1	1		2
South Korea		1			1		2
Taiwan		1			2	5	8
Thailand	3	1	1		2	2	9
Tonga					1		1
Tuvalu					1		1
Vanauru					1		1
Western Samoa					1		1
TOTAL	11	12	25	37	85	77	247

period, along with the percentages of the total articles published. There were increases in 1976–1980 and 1981–1985 to 17% and 23%, respectively, and in 1986–1990, the highest figure yet was attained, 40%. This figure dropped to 34% in 1991–1996; still, it was three times as large as the number of articles published at the start of the thirty-two years.

A look at Table 15 uncovers several trends. Increasing attention has been given to China, Japan, and New Zealand over the thirty-two year period. The breadth of countries addressed has also expanded. For example, Emerging economies such as Hong Kong, Indonesia, Malaysia, Taiwan, Thailand, and Singapore have recently gained attention over the years. In 1986–1996, approximately 10% of the total number of Asian/Pacific articles published concerned those countries, about which little had been written previously.

Table 16 shows that a greater number of subjects related to the Asian/Pacific region have been covered in recent years; in 1965–1970 only four subjects were discussed. In both 1971–1975 and 1976–1980 the number stood at six, followed by an increase to nine in 1981–1985. Variety in subjects covered reached its maximum in 1986–1990 with twelve of the thirteen subjects covered. It is clear that authors have increasingly diversified their subjects, emphasizing new subjects and developments. Since 1986, articles on the social effects of accounting, information systems, and taxation have begun to appear. But only two subjects, economics and development and financial accounting and reporting, have been written about during all six time periods.

Trends in the coverage of many subjects related to Asian/Pacific countries are quite evident as may be seen in Tables 16 and 17. Whereas auditing and accounting history have received decreasing emphasis, an increasing number of articles on managerial accounting have appeared. Although professional development was emphasized in 1965–1970, its study decreased in later years, and the subject has only recently regained its former position of percentage of articles per period. There has been a large increase in the number of articles devoted to accounting education, rising from one in 1976–1980 and 1981–1985 to five in 1986–1990, and four in 1991–1996.

Table 16. Classification by Subject & Time Period-Asian/Pacific Countries

Years	*1965–70*		*1971–75*		*1976–80*		*1981–85*		*1986–90*		*1991–96*		*Total*	
Subject	*No*	*%*	*No*	*%*	*No*	*%*	*No*	*%*	*No*	*%*	*No*	*%*	*No*	*%*
Accounting Education	3	27			1	5	1	3	5	10	4	7	14	7.7
Accounting History							1	3	1	2			2	1.1
Accounting Theory			1	9	1	5	5	16	4	8	1	2	12	6.6
Auditing							4	13	5	10	11	19	20	10.9
Economics & Development	1	9	4	37	1	5	3	9	4	8	7	12	20	10.9
Financial Accounting & Reporting	5	46	3	27	17	75	9	28	13	26	15	26	62	33.9
Information Systems									1	2	1	2	2	1.1
Managerial Accounting			1	9	1	5	4	13	6	13	7	12	19	10.4
Miscellaneous			1	9					1	2	3	5	5	2.7
Professional Development	2	18					3	9	6	13	6	10	17	9.3
Public Accounting			1	9	1	5	2	6					4	2.2
Social Effects of Accounting									2	4	3	5	5	2.7
Taxation									1	2			1	0.5
Total	11	100	11	100	22	100	32	100	49	100	58	100	183	100

Table 17. Classification by Subject, Methodology, and Time Period-Asian/Pacific Region

	Capital Markets						*Deductive Descriptive*						*Empirical Descriptive*						*Empirical Statistical*					
Years	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*
Accounting Education							2		1	1	4	1					1	2						
Accounting History											1													
Accounting Theory			1							2	2			1		1	1							1
Auditing										2	2	1				1	1	2					2	7
Economics & Development		1				3	1	2	1	1	4	2		1		1								1
Financial Accounting & Reporting				1		3	3	2	7	2	3	6	1		5	1	3	2			1	3	4	4
Information Systems																	1	1						
Managerial Accounting										1	2	2				1	1	3			1		1	2
Miscellaneous											1	1												2
Professional Development							2			2	4	2				1	1							1
Public Accounting								1							1	2								
Social Effects of Accounting												2					1						1	
Taxation											1													
Total		1	1	1		6	8	5	9	11	23	17	1	2	6	8	10	10			2	3	8	18
Percentage of Total By Period		9	5	3		10	73	46	41	35	47	29	9	18	28	25	21	17			9	9	16	31

(continued)

Table 17. (Continued)

	Historical						*Modeling*						*Theoretical*						*Total*					
Years	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*
Accounting Education						1							1						3		1	1	5	4
Accounting History				1	1																	1	1	
Accounting Theory																2	1			1	1	5	4	1
Auditing																1						4	5	11
Economics & Development																1		1	1	4	1	3	4	7
Financial Accounting & Reporting													1	1	4	2	3	2	5	3	17	9	13	15
Information Systems																							1	1
Managerial Accounting										1	1			1		1	1			1	1	4	6	7
Miscellaneous														1						1			1	3
Professional Development						3											1		2			3	6	6
Public Accounting																				1	1	2		
Social Effects of Accounting																							2	3
Taxation																							1	
Total				1	1	5				1	1		2	3	4	7	6	2	11	11	22	32	49	58
Percentage of Total By Period				3	2	9				3	2		18	27	18	22	12	3	100	100	100	100	100	768

Table 17 shows that deductive descriptive has been the predominant methodology used in every time period, starting in 1965–1970 when it was used in 73% of the Asian/Pacific region articles. These are articles that describe current accounting practices in a country or group of countries. Overall, 73 of the 183 articles, or 40%, use this methodology, with all subjects except information systems, employing it. (Note that the combined number of articles written regarding this exception is only two).

The modeling and historical methodologies have come into use only in recent years. Modeling has been used only for articles regarding managerial accounting, while the historical method has been the sole approach used in articles on accounting history. The empirical statistical methodology did not begin to be employed until 1976–1980 and only in recent periods (1986–1990 and 1991–1996) has its use increased. The percentage of articles using capital markets has increased in recent years, with six articles appearing in 1991–1996. The articles on financial accounting and reporting and managerial accounting show the greatest number of methodologies used, in each case five of the seven methodologies. Table 18 summarizes the data in Table 17 without the time periods.

Table 19 shows all the authors, twenty in number, who published at least two articles on Asian/Pacific countries during the thirty-two year period. Only four authors had as many as three, and Robert Bloom was the only author who produced the most with four articles.

PROFILE ACCOUNTING RESEARCH ON DEVELOPING COUNTRIES: 1965–1996

This section places research about developing countries in historical perspective by giving a profile of the articles appearing in *The International Journal of Accounting* from 1965 to 1996. Research is classified by country, research methodology, subject, and five-year time periods.

The countries that were classified as developing by the 1990 World Bank publication *Trends in Developing Economies* 1990 are as follows:

Argentina	Nigeria
Bangladesh	Pakistan
Barbados	Panama
Botswana	Philippines
Chile	Poland
China	Solomon Islands
Colombia	Sudan
Cyprus	Thailand
Egypt	Tonga
Ethiopia	Tunisia
Fiji	Turkey
Ghana	Uruguay
Guatemala	Venezuela
Kenya	Western Samoa

Table 18. Classification by Subject & Methodology-Asian/Pacific Region

	Capital Markets		*Deductive Descriptive*		*Empirical Descriptive*		*Empirical Statistical*		*Historical*		*Modeling*		*Theoretical*		*Total*	
Subject	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*
Accounting Education			9	12.3	3	8.1			1	14.3			1	14.2	14	7.7
Accounting History									2	28.6					2	1.1
Accounting Theory	1	11.1	4	5.5	3	8.1	1	3.2					3	12.5	12	6.6
Auditing			5	6.8	4	10.8	9	29.0	1	14.3			1	4.2	20	10.9
Economics & Development	4	44.4	11	15.1	2	5.4	1	3.2					2	8.3	20	33.9
Financial Accounting & Reporting	4	44.4	23	31.5	12	13.5	12	38.7					11	45.8	62	
Governmental																
Information Systems					2	5.4									2	1.1
Managerial Accounting			5	6.8	5	13.5	4	12.9			2	100	3	12.5	19	10.4
Miscellaneous			2	2.7			2	6.5					1	4.2	5	2.7
Professional Development			10	13.7	2	5.4	1	3.2	3	42.9			1	4.2	17	9.3
Public Accounting			1	1.4	3	8.1									4	2.2
Social Effects			2	2.7											5	2.7
Taxation			1	1.4											1	1.0
Total	9	100	73	100	37	100	31	100	7	100	2	100	24	100	183	100

Table 19. Most referenced Authors Asian/Pacific Region

Name	*# Of Articles*
Bloom, Robert	4
Debessay, Araya	3
Park, Soong Hyun	3
Popoff, Boris	3
Agrawal, Surendra P.	2
Cheng, Philip C.	2
Choi, Frederick D. S.	2
Falk, Haim	2
Farag, Shawki M.	2
Gray, S. J.	2
Gul, Ferdinand A.	2
Juchau, Roger H.	2
Leech, Stewart A.	2
Meek, Gary	2
Pratt, Denis J.	2
Schweikart, James A.	2
Someja, Kyojiro	2
Tai, Benjamin Y. K.	2
Wasley, Robert S.	2
Wu, Frederick H.	2

Korea
Malaysia
Mexico
Yugoslavia
Zambia
Zimbabwe

The following graphs and tables are provided with this section:

Table 20 divides the articles into subject, methodology, and five-year time period.
Table 21 divides articles into subject and methodology.
Table 22 shows, by five-year time period, the total number of articles in *The International Journal of Accounting*, the number of developing articles published, and the percentage of developing articles in relation to the total.
Table 23 separates the developing country articles into the countries to which they pertain. As noted, many articles deal with more than one country.
Table 24 lists the most referenced authors. All authors who have two or more published articles in the study are disclosed.
Table 25 shows the total articles by five-year time period classified by subject.

Researchers have given increased attention to the topic of developing countries as evidenced by the growing number of articles appearing over the thirty-two year period. As shown in Table 20, deductive descriptive has been the predominant methodology used in every time period, peaking in 1981–1985 when it was employed in 70% of the total articles. Overall, 80 of the 126 articles, or 63%, use this methodology, with all subjects except information systems employing it. No other methodologies have been utilized in all periods. Capital markets and modeling have been used the least throughout the thirty-two years. Only five articles employed the capital market methodology, and just one article used modeling. Both the empirical descriptive and empirical statistical methodologies

Table 20. Classification by Subject & Methodology-Developing Countries

	Capital Markets						*Deductive Descriptive*						*Empirical Descriptive*						*Empirical Statistical*					
*Years**	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*
Accounting Education							3		2	2	2	2					2							
Accounting History											1													
Accounting Theory										1	1													
Auditing									1		1	3				2	1	1					1	1
Economics & Development						3	2	4	2	4	4	1		1				1				3	1	1
Financial Accounting & Reporting				1		1	3	3	6	8	3						1	1				3	1	1
Governmental										1														
Managerial Accounting										2	2	1												1
Miscellaneous												3												
Professional Development										2	2	2												
Public Accounting							1	2		1														
Social Effects of Accounting									1															
Taxation											1													
Total	0	0	0	1	0	4	9	9	12	21	17	13	0	1	0	2	4	3	0	0	0	3	2	3

	Historical						*Modeling*						*Theoretical*						*Total*					
Years	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*	*65*	*71*	*76*	*81*	*86*	*91*
Accounting Education													2						5	0	2	2	4	2
Accounting History					1														0	0	0	0	2	0
Accounting Theory																	1		0	0	0	1	2	0
Auditing																			0	0	1	2	3	5
Economics & Development			1										5			2		1	7	5	3	6	4	6
Financial Accounting & Reporting		1											1			1	2		4	4	6	13	7	3
Governmental																			0	0	0	1	0	0
Managerial Accounting																			0	0	0	2	2	2
Miscellaneous									1										0	0	1	0	0	3
Professional Development						1												1	0	0	0	2	2	4
Public Accounting																			1	2	0	1	0	0
Social Effects of Accounting																			0	0	1	0	0	0
Taxation																			1	1	0	0	1	0
Total	0	1	1	0	1	1	0	0	1	0	0	0	9	1	0	3	3	2	18	12	14	30	27	25

Table 21. Classification by Subject & Methodology-Developing Countries

	Capital Markets		*Deductive Descriptive*		*Empirical Descriptive*		*Empirical Statistical*		*Historical*		*Modeling*		*Theoretical*		*Total*	
Subject	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*
Accounting Education			11	13.8	2	20.0							2	11.1	15	11.9
Accounting History			1	1.3					1	25.0					2	1.6
Accounting Theory			2	2.5									1	5.6	3	2.4
Auditing			5	6.3	4	40.0	2	25.0							11	8.7
Economics & Development	3	60.0	17	21.3	2	20.0			1	25.0			8	44.4	31	24.6
Financial Accounting & Reporting	2	40.0	23	28.5	2	20.0	5	62.5	1	25.0			4	22.2	37	29.4
Governmental			1	1.3											1	0.8
Information Systems																
Managerial Accounting			5	6.8			1	12.5							6	4.8
Miscellaneous			3	3.8							1	100			4	3.2
Professional Development			6	7.5					1	12.5			1	5.6	8	6.3
Public Accounting			4	5.0											4	3.2
Social Effects			1	1.3											1	0.8
Taxation			1	1.3									2	11.1	3	2.4
Total	5	100	80	100	10	100	4	100	8	100	1	100	18	100	126	100

Table 22. Articles in the International Journal of Accounting-Developing Countries

Time Period	*Total Number of Articles in IJA*	*Developing Country Articles*	*% of Developing Articles in IJA*
1965–1970	102	18	17.6%
1971–1975	100	12	12%
1976–1980	131	14	10.7%
1981–1985	142	30	21.2%
1986–1990	121	27	22.3%
1991–1996	172	25	14.5%
Total	**768**	**126**	**16.4%**

have been employed primarily in the last three periods. Table 21 summarizes the data in Table 20 without the time period.

Table 22 shows that from 1965–1970, eighteen were devoted to developing countries, and the number of articles decreased in the next two periods before jumping significantly in the 1981–1985 period, from fourteen articles in 1976–1980, to thirty articles, an increase of over 53%. During 1986–1990 twenty-seven articles were written, representing 22% of the total number of articles. The number of articles on developing countries decreased to twenty-five (15%) in 1991–1996.

Table 23 shows that, among individual countries, primary attention has been given to China (23 articles), Egypt (13), Poland (12), Mexico (8) and Thailand (8). China shows the most significant growth from two articles in 1965–1970, to nine in 1986–1990 and eight in 1991–1996. Of the total articles written about developing countries over the thirty-two year span, articles about China represent over 15%. Egypt is the second most discussed country at 8.4%. The breadth of countries covered has increased also in the last fifteen years, as articles have begun to appear on Bangladesh, Barbados, Kenya, Malaysia, the Philippines, the Solomon Islands, Tonga, Zambia and Zimbabwe.

Table 24 shows all authors, fourteen in number, who published at least two articles on the topic of developing countries during the thirty-two-year period. Three authors had as many as three articles, and only Alicja Jaruga published four. The majority of articles about Developing countries appeared during the last three periods.

In subject coverage, as shown by Table 25, two areas have been written about during all six time periods: economics and development and financial accounting and reporting. The periods of 1981–1985 and 1986–1990 featured the most subjects (nine out of the thirteen possible).

Several trends in the coverage of subjects are may be found in Table 25. Accounting education, while a popular subject in the 1965–1970 period with five articles, dropped substantially in the next three periods. However, the number of articles again increased to four in the 1986–1990 period before dropping back to one in 1991–1996. Accounting history, theory and professional development were all represented in the second fifteen years but not in the first sixteen. Throughout the thirty-two years, financial accounting and reporting received the most attention, with 37 articles in all. Economics and development was second, with 31 articles. Governmental and the social effects of accounting were neglected as subjects throughout the thirty-two year period. The total number articles about Developing Countries decreased during 1991–1996, after increasing markedly from 1981 through 1990.

Table 23. Articles by Country-Developing Countries

	1965–1970	*1971–1975*	*1976–1980*	*1981–1985*	*1986–1990*	*1991–1996*	*Total*	*Percentage of Total*
Argentina			1	1			2	1.29%
Bangladesh					2	2	4	2.58%
Barbados					1	1	2	1.29%
Botswana				1			1	0.65%
Chile			2				2	1.29%
China	2		1	3	9	8	23	14.84%
Colombia			1				1	0.65%
Cyprus				1			1	0.65%
Egypt	1		1	7	3	1	13	8.39%
Ethiopia		1					1	0.65%
Fiji					1		1	0.65%
Ghana			2				2	1.29%
Guatemala					1		1	0.65%
Kenya				1			1	0.65%
Korea	1	1		1	1	2	6	3.87%
Malaysia				1	2	2	5	3.23%
Mexico		1	2	1	4		8	5.16%
Nigeria				1		1	2	1.29%
Pakistan		1		1	2		4	2.58%
Panama		1			1		2	1.29%
Philippines				2	3	1	6	3.87%
Poland		2	3	3	1	3	12	7.74%
Solomon Islands				1	1		2	1.29%
Sudan				1			1	0.65%
Thailand	3	1	1		2	1	8	5.16%
Tonga					1		1	0.65%
Tunisia	1	1					2	1.29%
Turkey			1	1			2	1.29%
Uruguay			1	1			2	1.29%
Venezuela				1			1	0.65%
Western Samoa					1		1	0.65%
Yugoslavia			1	2			3	1.94%
Zambia					1		1	0.65%
Zimbabwe					1	1	2	1.29%
General: developing & emerging	10	4	2	6	3	4	29	18.71%
Total	**18**	**13**	**19**	**37**	**41**	**27**	**155**	**100%**

CONCLUSION

This study provides a thirty-two year historical perspective of international accounting research by presenting an analysis of the articles that have appeared in *The International Journal of Accounting* (formerly, *The International Journal of Accounting, Education, and Research*) and related monographs during the time period 1965 through 1996. All articles are analyzed by research methodology, country, subject, time periods, and authors comprehensively and for the European region, the Asian/Pacific region and for developing countries. A complete annotated bibliography of all 768 articles with

Table 24. Most Referenced Authors-Developing Countries

Name	*#Of Articles*
Jaruga, Alicja	4
Berry, Maureen	3
Farag, Shawki	3
Briston, Richard J.	2
Cheng, Philip	2
Fekrat, M.	2
Markell, William	2
Meek, Gary	2
Needles, Belverd E., Jr.	2
Ninsuvannakul, P.	2
Rivera, Juan	2
Turk, Ivan	2
Xu-Ying, Yu	2
Wong-Boren	2

Table 25. Classification by Subject & Time Period-Developing Countries

Years	*1965–70*	*1971–75*	*1976–80*	*1981–85*	*1986–90*	*1991–1996*	*Total*
Accounting Education	5	0	2	2	4	2	15
Accounting History	0	0	0	0	2	0	2
Accounting Theory	0	0	0	1	2	0	3
Auditing	0	0	1	2	3	5	11
Economics & Development	7	5	3	6	4	6	31
Financial Accounting & Reporting	4	4	6	13	7	3	37
Governmental	0	0	0	1	0	0	1
Managerial Accounting	0	0	0	2	2	2	6
Miscellaneous	0	0	1	0	0	3	4
Professional Development	0	0	0	2	2	4	8
Public Accounting	1	2	0	1	0	0	4
Social Effects of Accounting	0	0	1	0	0	0	1
Taxation	1	1	0	0	1	0	3
Total	**18**	**12**	**14**	**30**	**27**	**25**	**126**

indexes by author, topic, country, region, and methodology is available on disk from the author.

NOTES AND REFERENCES

1. Belverd E. Needles, Jr. 1995. "Profile, Annotated Bibliography, and Index of Accounting Research on Developing Countries: 1965–1990," *The International Journal of Accounting, 30*(2): 107–128; Belverd E. Needles, Jr., 1994. "Index of Accounting Research on Asian/Pacific Countries: 1965–1990," *Asian Review of Accounting 2*(1): 74–108; Belverd E. Needles, Jr., 1995. "A Profile, Annotated Bibliography, and Index of Accounting Research on International Accounting: 1965–1990," European Accounting Association, annual meeting, Birmingham, England, (May 11); Belverd E. Needles, Jr., 1993. "A Profile, Annotated Bibliography, and Index of Accounting Research on European Countries: 1965–1990," European Accounting Association, annual meeting, Turku, Finland, (April 29), and Belverd E. Needles, Jr. 1992. "A Profile, Annotated Bibliography, and Index of Accounting Research on Asian/Pacific Countries: 1965–1990," Fourth Asian/Pacific Conference on Issues in International Accounting, Dunedin, New Zealand, (November 24).

2. These numbers include articles published within Volumes 1–30 of the *International Journal of Accounting, Education and Research* and articles from the following:

- The Multinational Corporation: Accounting and Social Implications, 1977.
- The Impact of Inflation on Accounting: A Global View, 1979.
- Managerial Accounting: An Analysis of Current International Applications, 1984.
- The Recent Accounting and Economic Developments in the Middle East, 1985.
- The Recent Accounting and Economic Developments in Western Europe, 1985.
- The Recent Accounting and Economic Developments in the Far East, 1988.
- Comparative International Accounting Educational Standards, 1990.
- Ethical Considerations in Contemporary International Accounting Practice, 1992.
- Changing International Financial Markets and Impact on Accounting, 1992.
- The New Europe: Recent Political and Economic Implications for Accountants and Accounting, 1994.

Book Review

Research in Accounting in Emerging Economies *edited by R.S. Olusegun Wallace, John M. Samuels, Richard J. Briston and Shahrokh M. Saudagaran, JAI Press Inc., Greenwich CT, Volume 3 1995, 321 p.*

This collection of sixteen articles and one book review addresses the accounting issues, practices and problems of emerging economies. These emerging economies include both developing and recently industrialized countries. This volume is an excellent compilation for all readers, whether they are well-versed in these issues or seeking an introduction to the accounting issues facing these economies. The articles address the effects, both beneficial and detrimental, of international accounting systems and practices on emerging economies, and the counter-effects of the culture and environments of these economies on traditional accounting approaches.

While the first two volumes in the series were published under the title *Research in Third World Accounting,* the third volume continues the series under its new name *Research in Accounting in Emerging Economies.* Editors Wallace, Samuels, Briston and Saudagaran feel that the new title captures more "fully the range of issues the series aims to tackle and encompass(es) properly the set of countries which the annual is intended to cover" (xvii).

The articles in Volume 3, as with future articles, are concerned with "theoretical, empirical and applied research into the macro and micro accounting issues of emerging economies … (and) the relevance of international accounting standards to emerging economies" (xx). The articles are grouped into four sections: Accounting and Culture, Empirical Studies, Accounting and Auditing in Four Countries, and Accounting Education and Training. Another change to the series is the inclusion of a fifth section presenting a review (and reply) of a book relevant to the issues and topics addressed by the articles.

The four articles in Part I: Accounting and Culture look at such diverse economies as Iran, South Africa, Singapore and several Central African countries. In "Accounting and Culture: The Case of Iran," Pourjalali and Meek explore the effect on accounting practices of cultural changes in pre-and post-1979 revolution Iran. Their discussion is framed by Hofstede's and Gray's classification of countries on cultural dimensions and their relationship to accounting values.

Botha, in "The South African Corporate Economy: From Racial to Social Capitalism," proposes that South Africa can achieve economic growth and redistribution of wealth only by fundamental changes in their general management philosophy and financial management practices. The past effects of apartheid and the current demands of the prevailing social democracy on South Africa's economic development are discussed, concluding

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with recommendations for improving corporate and financial management within the context of the current political/social/economic environment.

"Value Added Productivity Analysis as A Management Tool: A Review of Singapore, Britain and Japan" by Chong compares and contrasts the extent of, and the reasons for, use of this analysis in three countries.

In the final article in Part I, "The Value Added Accounting Practices of the OCAM Plan: A Theoretical Appraisal," Elad assesses the application of value added accounting originally proposed by the OCAM, a regional economic organization, and continued by UDEAC. The member states of UDEAC (the Customs and Economic Union of Central Africa) share a common accounting system, are regulated by the same supranational accounting organization, and are working to harmonize accounting practices in their region.

Part II: Empirical Studies presents the results of six studies on such disparate topics as Caribbean financial reporting, corporate disclosure on Bangladesh, and accounting services in India. Riahi-Belkaoui, in "Prediction Performance of Earnings Forecasts of US Firms Active in Developed and Developing Countries," finds that analysts' earnings forecasts are most accurate for US domestic corporations, and least accurate for US-based multinationals with significant operations in developing countries.

"Financial Reporting Practices in the Caribbean: A Comparison and Analysis in Light of the Import Model of Financial Reporting" by Salter, Roberts and Kantor compares one hundred practices across five Caribbean countries. These practices are influenced by United Kingdom rather than United States accounting, and are consistent across the Caribbean countries studied.

Murinde, Naser and Wallace, in "Is It Prudent for Islamic Banks to Make Investment Decisions Without The Interest Rate Instrument?", present the effects of Islamic tenets, specifically the prohibition of interest, on banking practices, decisions, and profitability in Islamic countries.

In "Disclosure Quality in Corporate Annual Reports of NonFinancial Companies in Bangladesh," Nicholls and Ahmed assess the current extent and quality of annual report disclosure, and the adequacy of these disclosures in meeting the information needs of financial statement users and government regulatory agencies in Bangladesh. Quality and satisfaction of user needs are both found to be low.

"A Survey of Businessmen and Chartered Accountants' Attitudes towards the Advertising of Accounting Services in India," by Venkateswar reports that, contrary to the current ban on advertisement of accounting services by the Institute of Chartered Accountant of India, most respondents, whether in business or chartered accountants, favor such advertising.

Virameteekul, Jones and Chansarkar, in "An Exploratory Study of Budgetary Participation, Motivation and Performance in Thailand," report that while there is a significant relationship between participation in budget goal setting and performance by Thai managers, there is no link between budget participation and managerial motivation, raising the question of cultural influences.

Part III: Accounting and Auditing in Four Countries begins with "The Evolution of Responsibility Accounting Systems in China." Scapens and Ben-Ling trace the economic reforms in China and their relation to current developments in responsibility accounting.

"Accounting Development in Papua New Guinea," by Pok presents the history of accounting from 1800 to its current state, where the accounting profession is developing but still in its infancy.

Foo and Tan, in "The Auditing Regulatory Framework in the Philippines," discuss the influences of the political and economic environment of the accounting profession and the regulatory framework of auditing in the Philippines.

"Financial Reporting of State-Owned Enterprises in Developing Countries: The Case of Zaire," by Hagigi and Williams concludes Part III with a discussion of the socio-political and economic factors that influence Zairean financial reporting practices. The accounting and reporting issues associated with state-owned enterprises in developing countries are specifically addressed.

The first of two articles in Part IV: Accounting Education and Training is "The Future of Accounting Education in South Africa," by Rowlands. Trends in accounting education in other countries are compared to the state of South Africa's accounting education, with recommendations addressing specific accounting education issues. The final article, "Large-Scale Internship Programmes: The Singapore Experience," by Tay and Teo, describes the experience of a Singaporean university in implementing an accounting internship programme.

This volume is the first in the series to include Part V: A Book Review and A Reply. *Financial Reporting in the West Pacific Rim: An Extension and Update* edited by Cooke and Parker, is reviewed, with a reply to the review by editors Cooke and Parker.

In summary, this volume is a compilation of wide-ranging articles on the accounting and reporting issues facing developing and newly industrialized countries. Due to their specific focus on particular countries and regions, such articles do not fit into the neat categories prescribed by many accounting journals. This volume addresses this omission admirably.

Reviewed by Susan C. Borkowski
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A History of Financial Accounting *by John Richard Edwards, Routledge, Chapman, and Hall, London, 1989, 326 p., $69.95.*

Edwards' book was designed as a textbook for an accounting history course, and it meets that objective quite well if the course is being taught in Great Britain. The title could better illustrate the content with mention of the fact that the subject matter is the history of financial accounting in Great Britain. In many respects, this volume is similar to Michael Chatfield's 1977 *A History of Accounting Thought*, but with emphasis only on British contributions. Although the title mentions only financial accounting, aspects of both managerial accounting and auditing are covered as they relate to financial reporting. The index is quite useful, but not thoroughly complete. Three appendices list court cases, legal statutes, and government committees that have had an impact on the British accounting profession and accounting practice.

The book is almost wholly based on secondary sources, which was the author's intention since he felt that much of the history research since the mid 1970s had not been incorporated into a general overall pattern. In this respect, Edwards' book makes a major contribution. The author emphasizes this point in the Preface with: "Much more work is needed from accounting historians before an authoritative history can be written." The conclusions of history are "more likely to be accurate if they are based on a full range of information relating to the topics or period under examination" (Page 3).

The first two chapters form an introduction with the initial chapter asking the question, "Why bother with accounting history?" The answer is inspiring and well worth reading.

Part II consists of seven chapters outlining the history of accounting from ancient times to the industrial revolution. The coverage of ancient times includes the typical stories from Mesopotamia, Babylonia, Egypt, Peru, and Italy. After 1500, however, the history is devoted primarily to Great Britain. Chapter 7 on early literature (i.e., textbooks) is particularly interesting and represents an excellent contribution by the author. Similarly, Chapter 8 on joint stock and limited liability companies provides an admirable history of the corporate form of business. This latter chapter is of interest to the general reader as many of the early British corporations are household names, such as the East India Company, Hudson Bay Company, and the South Sea Company. It was noted that the first major secondary market for the shares of these early companies was at the famed Lloyd's Coffee House. The economic causes of the growth of the capital markets were explored with the use of statistics. All in all, this was an intriguing chapter.

Most of the material in Part II is based on the work of British-based authors, which is somewhat of a limitation for the early centuries. For instance, the book ignores the work of Alvaro Martinelli in the chapter on early double-entry bookkeeping. In some places, Edwards mentions unsubstantiated ideas, and identifies them as such, which serves to ignite the thought processes. For example, on page 46, he states, "double entry may have originated in India prior to Greek and Roman times..."

Part III consists of three chapters on corporate financial reporting practices, and Part IV includes seven chapters on rules and regulations. These sections are almost totally devoted to British practices, and are based on the work of British authors. Though these sections would not be of interest to general readers outside of Great Britain, they are beneficial to scholars concerned with making comparisons between British practice and that of other nations. These chapters are essentially "events-based" in that they emphasize the role of events in changing accounting practices. For example, numerous frauds are discussed as well as the roles of company law and pressure groups. All of the Part III chapters include extensive discussion of court cases influencing the accounting profession.

One of the more important chapters for understanding the growth of British accounting theory is Chapter 10, "Formulating Company Accounting Conventions, 1830–1900." Most of the modern concepts were formulated during those seven decades. In 1830, profit calculation and depreciation accounting were rare and assets were valued in a multiplicity of ways. By 1900, seventy years of experimentation had led to the fundamental concepts followed today.

Chapter 12, dealing with falsification of accounts, makes for interesting reading, as do most fraud-related readings. The companies may not be familiar to the non-British reader, but the methods of falsification are familiar, as are the effects of major fraud on accounting practice.

Part IV, entitled Rules and Regulations and consisting of seven chapters, is of importance to British readers and researchers seeking to make international comparisons, but is of less interest to the general reader. The roles of specific laws and a multitude of government committees are discussed. The many statutes—some industry specific, tend to make for tedious reading to the non-British reader. Nevertheless, these committees and laws have been causal factors that must be included in any history of British financial accounting.

A notable aspect of Chapter 18, "Accounting for Subsidiaries and Associated Companies," is the slow progress made by British accountants in this area of work. This American reviewer was pleased to see that Edwards recognized the backwardness of British consolidated accounting relative to that in the USA. Such balance is typical throughout the book.

A final section consists of two chapters on the development of the accounting profession in Britain. The first of these discusses individual accountants and the firms they founded. Edwards notes that there was "a great deal of truth in the assessment that the British accountancy profession 'was born through bankruptcies, fed on failures and fraud, grew on liquidations and graduated through audits'" (page 261). Unlike in many other countries, British accountants got their start by presiding over bankruptcy proceedings — a practice that still provides "rich pickings" for the profession. One large firm, Harding, Whinney, & Gibbons, obtained over 80% of its 1867 fees from insolvency work.

The final chapter explores the growth of professional associations in Britain, including organizations for industrial accountants such as the Institute of Cost and Works Accountants (now the Chartered Institute of Management Accountants). Various aspects of the work of the professional associations are discussed, such as ethics, specialization, entry barriers, educational requirements, links with universities, and regulation of reporting practices.

The major criticism that can be levied at Edwards' book deals with the title; the title is nor really descriptive of the contents. The book deals almost totally with British accounting, which was the author's intention, and includes some discussion of managerial accounting and auditing as well as the financial accounting mentioned in the title. In today's global economy, a book with this title promises a worldwide history of financial accounting, or at least in the English-speaking world. Such is not the case. Nevertheless, Edwards' book is of major consequence to British readers, and an important source of comparative information to theorists attempting cross-cultural analyses.

Reviewed by Dale L. Flesher
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Oxford, Mississippi, USA

Accounting Services, Growth, and Change in the Pacific Basin *by David L. McKee and Don E. Garner, Quorum Books, Westport, Connecticut.*

In this short book (159 pages of text) David L. McKee and Don E. Garner combine economic thought and accounting expertise in providing a better understanding of problems of change within certain Pacific nations. The authors describe the role of accounting services firms in producing internal linkages needed as a foundation for economic growth. In

doing so, they discuss the impact of international accounting firms on business operations and examine their potential for growth. In examining the various jurisdictions throughout the Pacific, the authors divided them into three subgroups with somewhat similar economic characteristics. The first group includes the newly industrialized four "Asian Tigers": South Korea; Taiwan; Hong Kong; and Singapore. The second group is composed of the four emerging "Asian Tigers": Indonesia; Malaysia; the Philippines; and Thailand. The final group is made up of a number of Pacific Island states: Fiji; Western Samoa; Vanuatu; and New Guinea to name a few.

The authors believe there could be a potential for unheralded economic and business growth in the Pacific Basin and that the twenty-first century may well be known as the Pacific Century. In examining the prospects for growth in the region, they weave the practical application of providing accounting services within a tapestry of economic thought. The authors do not state the audience for whom this book was written. This omission does not take away from the fact that the book is very informative and would be of interest to academics as well as practitioners.

Chapters 1-3 provide some preliminary observations concerning services functions, their international linkage to emerging economies in the Pacific, and the role of accounting services on economic expansion in the region. Chapter 1 is a general discussion of the impact of service functions on domestic and international economies. The authors address the importance of service functions as facilitators of domestic and international economic activity and their positive linkage effects in the international economy. They then describe how the large international accounting firms can positively effect emerging economies by providing service linkages. The authors continue with a general discussion of European colonial and commercial interests and U.S. geopolitical interests and their effect on growth and trade in the region. The authors examine how international services are affected by new arrangements with countries, such as New Zealand and Australia, newly industrialized countries, and newly emerged city service centers. The authors conclude with a discussion of relationships between manufacturing and service firms and the importance of supplying services, including accounting services, to industrial clients.

Chapter 2 is also a background chapter and further expands on the history of the Pacific Basin. It leads us through the early European influences, the heavy involvement of the U.S. in the region in World War II, the rebuilding of the Japanese economy following the War, and the current status of economies in the region. The rationale for dividing the region into three major country clusters is described. The authors address the importance of international communication, transportation, and banking and trading services linkages to many small island economies spread throughout the broad Pacific. They examine the similarities and differences between the economic tigers South Korea, Taiwan, Singapore, and Hong Kong, concluding that they "have been among the most spectacular performers in the world economy over the past twenty five years, quadrupling their shares of world production and trade." Also discussed is the importance of international linkages in expanding economic development in Indonesia, Malaysia, the Philippines, and Thailand. The authors make a strong case for the importance of services and service centers in developing economies.

Chapter 3 is an interesting discussion of the importance of accounting standards and the need for comparative financial information and disclosure in contributing to economic development. The authors address the influence of the International Organization of Secu-

rities Commission (IOSCO) upon the development of international accounting standards. They analyze the importance of adopting international standards in attracting foreign capital while maintaining domestic standards based on each country's unique culture, laws, customs, and business practices. In these first three chapters, the authors weave a comprehensive framework for a discussion of the contribution of services in general and accounting services in particular in the development of emerging Pacific nation economies.

Chapters 4-6 examine the accounting environments in selected countries clustered in the three economic country subgroups. Chapter 4 addresses business and accounting influences prevailing in Korea, Taiwan, Singapore, and Hong Kong. There are a number of significant differences in institutions and accounting practices when compared to the U.S. However, all four countries have vestiges of British and U.S. accounting institutions and practices, with Singapore and Hong Kong closer to the British model and South Korea and Taiwan more influenced by the U.S. model.

Chapter 5 uses the same analysis in examining accounting institutions and practices in the Philippines, Indonesia, Malaysia, and Thailand. Again, there are a number of differences in institutions and acounting practices when compared with the U.S. Indonesian institutions and accounting practices are modeled on Dutch law and practices, and the Philippines, Malaysia, and Thailand more closely follow the U.S. model. Chapter 6 applies the discussion to a number of specific Pacific Island countries: Fiji; Western Samoa; Vanuatu; and New Guinea. Here the differences in institutions and practices likewise differ and are further defined by their relative isolation in the broad Pacific.

In these last three chapters, the authors provide a wealth of information of business and accounting practices in each of the three major subgroups. Included are discussions concerning the registration of private and public companies, their subsequent regulation, authority for prescribing generally accepted accounting and audit principles, audited financial statement filings, and the institutions responsible for prescribing accounting and reporting practices. There is a detailed discussion of differing accounting treatments such as goodwill, valuation of marketable securities, fixed asset revaluations, tax allocations, inventory treatment, and required reserves. Accounting and reporting practices vary from country to country and often significantly differ from U.S. standards. The authors conclude that generally disclosure and enforcement standards do not favorably compare with U.S. reporting standards. These discussions provide an easy to use primer of business and accounting practices in the region. This information is of important interest to both international business students and practitioners.

Chapters 7-9 further examines the role of regional development and accounting firms' concerns in the three subgroups. These three chapters focus on "service trade" and the service role of the "big-six" firms in facilitating economic growth and providing linkage in a number of emerging Pacific region countries.

Chapter 7 is an especially interesting economic discussion of the economic contribution of Big Six firms in the newly industrialized countries of Korea, Taiwan, Singapore, and Hong Kong. The authors start the chapter with a discussion on government intervention in developing export-led industrialization, "Certainly the impressive growth records of the economies categorized as the 'Asian Tigers' can be attributed to manufacturing for export." Then, using the Republic of Korea as an example, the authors relate how early exports included items that used simple manufacturing processes and in turn were

followed by more complex products. The next level of economic activity promotes both the use and export of technology. Exporting technology brings with it a need for a host of technical, management, and marketing services. The "big six" firms with their local offices provide critical accounting services and international linkages in these nations. The authors also note the proximity of Korea to the large Japanese and Chinese markets. A similar treatment is made of the character and opportunity for trade in the remaining four "tigers." Important was the effect of the uncertainties in Hong Kong in service trade with China. The authors suggest that Singapore, given its economic character and location may have unequaled opportunity for expansion of its service trade. Hong Kong, although facing a somewhat uncertain future, likewise is expected to have enormous opportunities for expansion of service trade. The authors followed with a discussion on the nature of accounting services and the importance of international accounting firms in facilitating changes in the Pacific Basin. Using the Price Waterhouse Singapore office as an example, the authors relate how a broad range of accounting, consulting and business services, including secretarial services, are important in facilitating change and offering international linkages.

Chapter 8 attempts to appraise the impact of international accounting firms upon development prospects in the four emerging Asian-Pacific nations of Indonesia, Malaysia, Thailand, and the Philippines. The importance of international accounting firms in emerging nations' economic development is less clear. It has been recognized that "the positioning of specific business services in Third World settings depends upon the external linkages enjoyed by the economies in question rather than on what those linkages may be presumed to be in the future." In this chapter the authors compare the number of partners, their locations, and the respective populations of the four countries. The authors conclude that international accounting firms can have their greatest impact in export-oriented countries such as Thailand and Malaysia that readily allow establishment of western business. In contrast, international accounting firms may have a limited influence in countries such as Indonesia where there are fewer offices or in the Philippines with its political uncertainties.

Chapter 9 concludes with a discussion of international accounting firms on development prospects among the Pacific Island states. The authors address the effect of distance and location on development in remote islands. They conclude that those countries with the largest populations located on air and sea routes such as Fiji, Papua New Guinea, Solomon Islands, and Vanuata have the greatest opportunity for growth. The remaining major Pacific Island economies are limited in their economic development because of geographical isolation, expanding populations, and tiny domestic markets. While opportunities for international accounting firms are limited, they have continued to locate in the region. They do so to provide services for their international customers and by providing services well beyond traditional accounting services. Often they provide services over a broad expanse of ocean. The authors conclude that while international accounting firms may be less important to economic development than in more advanced countries, they are able to quickly provide services when the opportunities present themselves. They close with a discussion of two areas that may have future importance: tourism and off island investment centers.

The final three chapters are the most important in the book. They provide an economic discussion of the role of international accounting firms in facilitating economic develop-

ment. The authors show that international firms make a unique contribution in newly emerged countries that export technology and in emerging countries that are politically stable and open to new business. It is less certain that the international firms can make a difference in the many small and isolated Pacific Island countries.

Chapters 10-12 summarize institutional climates in the three country categories and the potential for growth and change. Chapter 10 is a review of accounting specifics in the three subgroups. The authors discuss how business regulation and accounting practices are defined and controlled in each country. Important is the difference in business and accounting practices and the role of international accounting firms in helping companies faced with different rules and regulations.

Chapter 11 studies the role of major international accounting firms in the various nations. Here the authors outline international accounting firms potential contributions in newly industrialized, emerging, and small Pacific Island economies. It seems clear that while business services, including accounting, can influence economic growth, the impact is going to be much greater in the more developed exporting and service economies that in the less developed economies.

Chapter 12 examines the importance of accounting services in facilitating growth through their wide range of services to domestic as well as foreign businesses. The authors conclude with a look at future prospects for international accounting firms in the region. Important is the linkage provided by the international firm in an emerging global economy. These final three chapters assess the current status of international accounting firms and their potential for expanded contributions throughout the Pacific.

In review, the authors combine economic and accounting expertise in presenting an analysis of accounting services and their potential for growth in the Pacific Basin. The book is generally well written and researched. The collaboration of economic and accounting thought give the book added substance. Readers who already have a good understanding of the growth of business and accounting services in the Pacific Basin may find this book to be somewhat brief, but readers less familiar with business and accounting services in the region will find this book a concise, useful, and very readable analysis of the role of accounting firms in providing international linkages that serve as a foundation for economic growth. Practitioners in international business may find it very helpful in understanding the underlying economic conditions that affect the potential for growth in accounting services in the region. The book could also provide a first text or supplemental text for a related accounting or economic course.

Reviewed by Donald M. Sartori, C.P.A.
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Pearl City, Hawai‘i

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EDITORIAL COMMENT

New editors frequently are asked questions about editorial policy to which there are no easy answers. In fact, I believe that attempts at precise answers to some of the questions may stifle innovation or cause authors to send their most interesting work to other editors. No editor is likely to be as imaginative as the population of potential authors. Therefore, precise answers are to be avoided.

The readers of The International Journal of Accounting (TIJA) are interested in all types of issues and methodologies. The overriding concern of the editor in meeting reader expectations is that the authors address important, interesting, and relevant questions in the international accounting context. Our readers expect authors to apply the best available methods to address the questions raised. Ideally, however, the questions should drive the method, not the other way around. A case approach may be the best and possibly the only available method for some issues rich in context but where availability data may be limited. When data are available or can be obtained or created at reasonable time and cost, our readers expect authors to obtain them and analyze them using the best available techniques. As an editor, I cannot prejudge all of the possible combinations of question and method an imaginative author might conceive. Not only do I lack the ability to do so, but also, if I tried, I would surely fail to receive the next truly innovative research paper.

Some journals and their editors do exhibit a strong philosophy with respect to what is acceptable for publication both in terms of the questions asked and the methods applied. This is appropriate when the journal editor seeks to establish a particular point of view. TIJA attempts, however, to attract a broad readership interested in international accounting issues. My editor colleagues with a similarly broad readership are positively reluctant to make definitive statements excluding certain question or methods from consideration. There are a number of obvious reasons for this reluctance. First, editors cannot anticipate all of the potentially interesting issues that can arise within the broad boundaries of their charge. Second, our field is evolving and changing, and setting absolute boundaries on what is acceptable or not acceptable is likely to cause the journal to be left behind, rather than be in leadership position, when the field takes a substantive turn. Journal editors are already conservative by nature; there is no reason to add to this tendency by setting up overly restrictive boundaries. Editors should take some risks if they expect to foster and lead change rather than simply reflecting current orthodox positions. Finally, despite stories to the contrary, editors face a pragmatic concern: They are constantly seeking out new, high-quality manuscripts that fit, even roughly, the boundaries of their journals' charge. There are never enough quality manuscripts.

Therefore, you might say I try to remain somewhat agnostic on the matter of boundaries, topical or methodological. Nevertheless, it is unreasonable to suppose that there are no boundaries. After all, the journal is not *The Journal of Anything*. Two limiting characteristics in the journal title do require some thought by any author considering a submission: It is a journal of accounting and specifically, international accounting. Our readers should not have to guess about the topical content of any article appearing in the *Journal*. When they open the covers and read the abstracts, the article authors should have

clearly related their research to accounting issues of international importance. It is, in the first instance, the author's responsibility to make the case that their choice of topic is relevant to accounting and those who use accounting data and that the topic addresses a significant issue in the international context.

As a potential author, if you believe that the issues in your manuscript are relevant to international accounting or those who use accounting data in an international decision-making context, that the question is important, and that you have addressed it with the appropriated methodology, give us a chance to consider your research. We rely on your judgment in the first instance. My reviewers and I will try to be receptive to new ideas and methods.

Andrew D. Bailey, Jr.,
Editor

The International Journal of Accounting

Cultural and Economic Influences on Current Accounting Standards in the People's Republic of China

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Key Words: People's Republic of China (PRC); China; Accounting; History and culture; Harmonization

Abstract: *Accounting Principles in the People's Republic of China have undergone dramatic reform since the 1970s. In moving toward a more market driven economy, the market structures and accounting rules have changed to the point that today many of the concepts and principles familiar in the most advanced economies are part of the Chinese regulations and laws. While China has forged many principles that are similar to Western and international practice, there are anomalies that may not be easily explained without a more detailed understanding of the cultural, economic and political environment now facing China. The principle of Guo Qing implies that change will be implemented only in conjunction with Chinese needs. As evidenced in the statutory restrictions on the value of certain contributed intangibles, the write-offs of accounts receivable and the discretionary write-downs of inventory for lower-of-cost-or-market considerations, there remain some areas of accounting practice that Chinese historical, cultural, and economic circumstances encourage an inexplicable result. Additionally, there remain differences in perspective that are more attributable to history than to specific accounting rules.*

There are few instances of countries experiencing the rapid and dramatic growth as well as ideological change witnessed in the People's Republic of China (PRC) since the late 1970s. In contrast, the forecast expectations for economic development for the former Soviet Union have not been realized to date. Similarly, the forecast promise of Latin America as an economic power has been stalled for many years by political instability and inflation. China has succeeded to date by drawing on the strong support of its state leadership, remaining mindful of its cultural heritage (Liu, 1993) and entering into numerous business partnerships with established nations around the world. As the "language of business," accounting advances were necessary to support the change from a socialist to a socialist-market economy (Yu, 1994). Drawing on the knowledge of economically

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advanced economies and their accounting methods, the Ministry of Finance has recently reformed the framework of accounting to support the new economic initiatives.

The PRC has not fully adopted the principles of accounting from Western or other economies, however. Drawing on the Chinese concept of Guo Qing or Chinese special circumstances, China has forged many principles that are similar to Western and international practice, but there are anomalies that may not be easily explained without a detailed understanding of the cultural, economic and political environment now facing China. Other studies describe the new accounting standards now in place in China (Winkle, Huss, and Chen, 1994; Taussig, Yang, and Mao, 1994). This study examines some of the differences between Western and international accounting principles and Chinese principles that remain and relates them to the current environment in China to provide insight into the reasons for these remaining differences. In doing so, and by providing a perspective for understanding or explaining the observed differences, this study meets the challenge of Wallace and Gernon (1991) "where the literature extends beyond the descriptive, most of it has failed to develop a coherent explanation of how and why accounting systems differ from country to country."

The following analysis is based on the experiences and observations of the authors, including interviews and meetings with Ministry of Finance officials, Chinese accountants and auditors, investment advisers, and auditors of international accounting firms assigned to the restatement of state enterprise financial statements during privatization or securities registration (Appendix A).

A HISTORICAL PERSPECTIVE ON ACCOUNTING IN THE PRC

Ancient Times to the 1949 Revolution

Accounting has a long and respectable role in the development of Chinese culture. Rooted in the teachings of the philosopher and educator Confucius is the imperative to keep history, and accounting records are viewed as part of that history. Confucius is quoted as using the term accounting in connection with his job as a manager of warehouses (Zhou, 1987). Some have gone as far as to ascribe a level of meticulous detail to the keeping of Chinese business records even to modern day, recording everything, however small (Sender, 1992).

The origin of accounting in China is difficult to trace precisely, but the term accounting is noted as far back as the Hsiu Dynasty, around 2200 B.C. At this time, the context of the function emphasized accounting's stewardship role (Winkle, Huss, and Tang, 1992). Later accounts of its use in the Xia Dynasty (2000-1500 B.C.) note use of the concept to measure wealth and accomplishments (Zhao, 1987).

The master — apprentice system was used to train accountants up until the 1900s, when university study became a way to understand and advance the principles and practice of accounting. The 1920s and following saw a number of Chinese scholars studying overseas and then returning to China with the latest accounting theory and practice. From these advances there developed a body of new theory in China, which resulted in existing practice and theory (Lin and Deng, 1992).

1949 to 1980s

The Revolution of 1949 had a lasting effect on accounting in China for the next 30 years. It has led some to observe that the profession "ceased to exist" after the Communist takeover (Cooper, Wei, and Chow, 1994). What cannot be denied is the profound influence of the Soviet system of accounting on Chinese accounting thought and methods. That system brought a uniform set of standard accounts and a balance sheet focus (sources and applications of funds) for accounting (Lou, Wang, and Enthoven, 1987). In eschewing the value of "profits" in the socialist society and in focusing attention on the central planning objectives of the state, emphasis shifted to emphasize issues of counting quantities and the comparison of costs and quantities (Winkle et al., 1992). These new accounting objectives were more related to managerial than financial accounting, and the role of financial accounting in decision making was diminished during this period due to the increase in role of the state in central planning and decision making.

Clearly, economic and political events had a dramatic influence on accounting practice, especially in the 1960s and 1970s (Lou et al., 1987). The dominance of state - owned enterprises in the economy, as well as the political movements of The Great Leap Forward of the late 1950s and the Cultural Revolution of the mid-1960s targeted accounting for radical simplification and rejected any remaining existing theory of that time as taught in the universities. Accounting was seen to be too complicated for the masses, and thus not in keeping with the socialist principles of non-exclusion (Lou et al.). In this period of "accounting without books," university professors were ousted and many writings on accounting theory put in official disrepute. At the detail level, terms such as debit and credit were replaced with simple terms such as plus and minus, and accounting and the account structures were further simplified and made accessible to the masses (Winkle et al., 1992). On-the-job training became the mode of accounting education again (Cooper et al., 1994), and anecdotal stories relate that some workers unable to labor in the factories due to health reasons were assigned desk jobs performing accounting tasks. Since taxes were levied based on the balances remaining in the enterprise, depreciation rates were set by law, and many common discretionary adjustments (e.g., over accruals and reserves) were not officially permitted but widely practiced. Secret reserves, in the guise of accruals and adjustments, were common to permit the "cushioning" of peaks and valleys in production and performance.

1980s to Date

The desire to expand the Chinese economy in the period of the 1980s led China to reach out to the world in a way contrary to any previous economic isolationist tendencies. The forces put in motion to support that change are generally attributed to the late Supreme Leader Deng Xiaoping. His statement, "to get rich is glorious," is an oft-repeated phrase that forms the rally cry for market forces and international trade to play a greater role in the Chinese economy. Recognizing the failure of the soviet economy to achieve its goals, the Chinese leadership set a course away from that failed model and toward what is termed a socialist-market economy, where capitalism and free enterprise operate under the watchful eye and sometimes direct intervention of the state. Perhaps in response to

China's long history of foreign political and economic invasion, there seems to be a clear intention that through this state oversight process, China will not lose its autonomy to foreign business interests. This is manifest in many business realities:

- All foreign-owned businesses and joint ventures involving foreign interests must be approved by the state before operations can begin.
- Land is generally not sold but leased for 50 years by the state. Leases can be fragile agreements if state interests change (*WSJ*, 1994b; Smith and Brauchli, 1995).
- Exchange is monitored and controlled through official state bank channels (Graham and Carley 1995).

Some view the outreach for foreign business partners, the Westernization of accounting principles (Lefebre and Lin, 1990), and the additional regulation of enterprises with more skepticism, seeing it "as a pragmatic but ideologically suspect way of overcoming a drastic shortage of investment funds" (Major, 1990).

The attraction of foreign capital and the creation of more private enterprise relative to state enterprise also increase the demand for trained accountants. Financial information again becomes the basis for more decision making by management, investors, and creditors (Yu, 1994). The growth of the number of certified accountants (CPAs), as well as the growth of their accounting knowledge and skill is seen to hold a pivotal role in the speed at which the economy can expand (Winkle et al., 1992; Sweeney, 1993). It is well recognized that it is difficult to simply lift an existing set of standards or principles and impose them on another group (Cooper and Rose, 1994). Indeed, there are frequent references by Chinese policy makers to the concept of guo qing, or Chinese special circumstances. Standards and regulations will be developed, but only after considering Chinese needs and culture. Despite the major commitment of the World Bank to sponsor the direct involvement of the international firm of Deloitte, Touche Tohmatsu in the process of Ministry of Finance accounting standards development (Wong, 1994), the principal role has been reported as advisers to the standards-setting process, called on "as needed." While going through several iterations in development, and with more detailed accounting standards poised for release in the near future, it is probably best to turn to the more recent standards for all enterprises and for foreign-owned entities to identify any remaining anomalies for enumeration and discussion (Ministry of Finance, 1993b and 1993c).

ACCOUNTING PRINCIPLES DIFFERENCES

Recent economic reforms have conformed many previous differences in Chinese accounting standards to existing International Accounting Standards Committee (IASC) or Western principles. The newness and brevity of the regulations, the scarcity of official documents, the lack of interpretations or guidelines for implementation, as well as the lack of coordination between the line ministries and the various rule-making departments in the Ministry of Finance contribute to observed variations in practice (Graham, 1996). Such variations are to be expected in an environment of rapid change and development, but their study during this period of change is somewhat less interesting than the study of the areas in which official policies create seemingly inexplicable requirements. Additionally,

the policy of setting fixed asset and intangible lives by line ministries or industry groups can introduce mismatches of cost allocation and asset use due to individual enterprise differences in asset use. The close tie between Chinese taxable and financial income, and the lack of experience of enterprises in estimating useful lives can help, however, simply to explain away the effects of this requirement as a "lesser of alternative evils."

This study examines three major areas of current accounting practice for which the standards are reported to have been heavily influenced by issues beyond accounting theory. The background, current situation, and implications of the cited anomalies are presented for the three topical areas: limiting the foreign intangible contribution to a new venture to 20% of registered capital, the establishment of a statutory ceiling on the amount of bad debts that can be written off in a period, and the restriction on the write-off of inventory for pricing or cost-or-market issues. In a later section, the conceptual challenge of applying the entity concept is discussed.

Limitations on Contributed Intangibles

A curious anomaly in the Chinese accounting rules for new venture entities is the simple limitation of certain types of intangibles (proprietary technology and patents) in the financial statements of the newly formed venture to 20% of the total registered capital. According to the Ministry of Finance (1993e, translated):

> If a foreign partner wants to invest using industrial property or technical know-how, the valuation of these contributions should be in accordance with generally followed international standards and the amount should not exceed 20% of the registered capital of the enterprise.

This limitation does not apply to the land occupancy right line item or other intangibles segment of the model balance sheet accounts that are also classified in the intangibles section.[1] The rule is even more curious when one considers that the state is openly encouraging companies with a high-technology and proprietary "know-how" base to enter and become partners in such ventures (Coopers and Lybrand CIEC,1994; Kuzmik and Burke, 1993, p.8). Indeed, the process of applying for permission to do business in China is considered a screening device to ensure that technology-based companies get high priority in the application process (Graham, 1995). Several reasons are suggested to explain this anomaly, but for reasons obvious from the discussion, there probably will be no "official" explanation.

A part of the puzzle may lie in the historical experience of the Chinese with foreign business interests. Earlier encounters have left a general wariness of foreign business practices and motives. De Mente (1993, p. 35) notes that

> The Chinese have long memories. Part of the image they have today of foreign businessmen and their efforts to sell consumer merchandise in China is the opium trade that was forced onto China and was a key factor in the country's being divided up into spheres of influence by Japan and several Western powers (excluding the U.S.).

To lessen these concerns, the encouragement of a real commitment and hard currency investment on the part of the foreign venture partner is being encouraged through the application of these accounting regulations. Historically, there is a sense that the Chinese

have been "plundered" by external political and b.iness interests, and current policies now seek to ensure that the investor will align its long-term, not simply short-term, interests with the growth of the market economy in China. How could this be encouraged through an accounting rule?

A solution to part of the puzzle may lie in the extraordinary difficulty with which valuations of intangibles are made in a still limited market economy such as in China. The valuation of processes, technology, manufacturing expertise, and management skill might constitute a major portion of the assets contributed by some foreign partners to the venture. However, the valuation of these contributions is very difficult. This is clearly recognized (Spencer, 1995). Consequently, valuation firms must be "licensed" before being allowed to value assets for purposes of new venture valuations (Coopers and Lybrand CIEC, 1994). While joint-venture international CPA firms have been granted a license to perform these valuations, affiliation with (or being) a Chinese firm is mandated (Wan, 1994; Coopers and Lybrand, 1993).

A significant limitation on the ability to generate fair market valuations is not only the intangible nature of some of the assets being valued but also the lack of comparative market transactions in the society to serve as a reference point. This difficulty impacts the valuation of both foreign investor intangibles and the contributions of land and fixed assets of the Chinese partner in a typical new venture. Commonly used valuation techniques such as discounted cash flows are inherently difficult to apply to intangibles. The challenges of intangible valuations are greater than for fixed assets since they often relate to unique assets and are not susceptible to valuation by reference to comparable market transactions or the use of industry benchmarks (e.g., construction cost per square foot). Discussions with staff and owners of Chinese valuation firms support the assertion that although many of the methods of valuation familiar to Western finance and accounting are known, their application in the current market-socialist economy context is quite difficult. Many basic questions about the establishment of a discount rate and periods of time over which cash flows will be predictable are complicated by the relative newness of the concepts of the time value of money, lack of markets, and fewer references for determining appropriate interest and discount rates.

Thus, one could see easily that there is a natural reason to be wary of valuations determining the bulk of an outside investor's contribution when valuation is difficult to verify and when there is little experience in developing "fair market values" for use in the combination of foreign and Chinese partner business interests. Given the historical experience and resulting cultural concerns about foreign investment commitment, one could understand the motivations underlying policies that address these concerns.

A Hypothetical Joint Venture

An example will demonstrate the potential effect of the 20% intangibles limitation on a hypothetical new stock company financial statement and on future performance evaluations. Assume the following facts:

1. Foreign investment (principally a patented technology and production know-how) totaling 20,000,000Y in the view of the foreign partner.

2. Chinese partner investment (principally land leased by the state for 50 years valued at 10,000,000Y and a building valued at 10,000,000Y) totaling 20,000,000Y.

From each party's perspective, the contribution offered are equal, but they may not be able to be fully *recognized* in the financial statements. The 20% limitation might require renegotiation and, in some cases, an additional foreign partner contribution of hard currency working capital or similar assets to balance the contributions. Clearly, the relative bargaining power between the parties will influence the final determination of the transaction and its recording. Prior research has studied the effects of bargaining power on joint venture ownership and operations (Yan and Gray, 1994).

In Table 1, the foreign partner is assumed to have contributed 12,000,000Y in working capital to balance the contributions.

Although other solutions to the imbalance in the contributed amounts and the amounts recognized in the financial accounts exist, the 20% rule remains a limiting factor in the discussions. For example, scaling back the Chinese partner's building and land valuations in order to reduce the imbalance of foreign partner contributions might appear to be possible, but it limits further the amounts that can be recognized as intangibles in the resulting statement. Although cash payments to the foreign partner to compensate for the limitation are possible, the underlying desire to attract foreign capital investments into China and the natural wariness to pay cash for an "intangible" limit the attractiveness of this situation to the Chinese.

In the end, the relative bargaining power of the partners will determine the outcome. In this limiting (maximum effect) example, the foreign investor would have contributed 61% (e.g., 12MM + 20MM / 40MM + 12MM) of the "true" assets but will receive credit for only a 50% contribution. This indicates the weak bargaining position of the foreign contributor. If the full contribution of the foreign partner cannot be recognized, the valuation of the resultant enterprise could be understated and in future periods could give the inflated appearance of higher than "true" returns due to a lowered investment base. The bargaining result under this accounting limitation may be modeled, but the outcome may not be predicted in the abstract, so individual agreements will dictate the final form and the extent of any distortion caused by the accounting rule. The facts need to be assessed in each case and a fruitful area of future research involves the assessment of how such business arrangements are impacted by the accounting rules. The lack of public disclosure of such new venture negotiations and agreements indicates the need for further analysis, perhaps using case studies.

Table 1. Pro Forma Joint Venture Assets

Assets	
Other Assets	12,000,000Y
Building	10,000,000
Land	10,000,000
Intangibles	8,000,000
Total Assets/Capital	40.000.000Y

Few technologies or processing procedures will have an economic life that will span the 50-year lease terms for land. Thus, there is likely to be a need for several future infusions of new technologies and processes sometime during the first 50-year "cycle" of investment in China. One way companies provide for the rapid pace of technology is through the amortization rates for intangibles. Although periods of up to 40 years may be used for intangible amortization in the U.S., the Securities and Exchange Commission (SEC) has suggested that it will be difficult for companies to justify such long periods for intangibles in certain industries, and many companies set amortization periods shorter than the 40-year maximum. In China, the amortization period for intangibles of joint stock corporations is regulated by the state. In the absence of a specific state regulation, intangibles must be amortized over the estimated benefited period. If the estimated benefit period is uncertain, a period of *not less than* 10 years must be used (Ministry of Finance, 1993d). Many technologies will have a relatively short lifespan given today's rapid pace of innovation and creation.

As a consequence, there could be a compound impact on the perceived financial position of the new enterprise. First, if the intangibles contribution of the foreign partner is understated (e.g.., the foreign partner contribution of 8,000,000 Y is understated by 12,000,000 due to the accounting limitation), the understated amount will never be recognized in the accounts. Second, to the extent that the rates of intangibles' amortization result in any under amortization of the reported intangibles amounts, the charges for amortization will be understated. Both situations could lead to the overstatement of the venture's observed accounting rate of return over future periods.

An Example

The lack of any requirement to publicly disclose the negotiation positions or outcomes of discussions surrounding the formation of joint stock companies makes the empirical examination of the effects of this accounting rule difficult. Conversations with Chinese CPAs and valuation experts provide an interesting perspective for understanding the aforementioned business issues, but client confidentiality restricts the disclosure of certain specific examples. A study was undertaken to identify joint venture and joint stock company investment activity in China involving U.S. registered companies. From approximately 4,000 companies in the American Institute of CPA's (AICPA's) NAARS database for fiscal year 1993, 11 companies provided disclosures of various types. Sample disclosures are presented in Appendix C; however, only the footnote disclosures of Alpha Solarco provided significant detail.

Based on the footnote disclosures of Alpha Solarco (AS), it contributed specialized equipment and technology (technology transfer agreement) in return for a 35% stake in the joint venture. For its contributions, AS received cash and an equity stake. The disclosure of the terms of the technology transfer agreement state that: "under this Agreement, a $1,000,000 lump sum non-refundable advance royalty is established." Additionally, the agreement "provides for continuing royalties payable over its 15 year term" with significantly higher royalty rates applying to the earlier years. This may imply that the value of the technology transfer agreement exceeded the up-front stated value of $1,000,000. Additionally, AS notes its expectations of future sales of key components for production and

additional equipment and tooling. The $750,000 ($1 million minus the cash payment of $250,000) capital contribution for the intangible constitutes around 19% ($750 / $5,363 - $1,363) of the registered capital (net assets) of the joint venture. Although the total intangibles caption for the joint venture exceeds 20%, this caption is likely to include other intangibles such as land leases that are not subject to the 20% limitation. One might assume from the disclosure that the accounting rule has shaped the nature and terms of the transaction. However, it is not possible to assess whether the contributed assets might be understated as of the date of the combination.

Additionally, AS notes that it will be unable to reflect the revalued fixed asset bases or the technology transfer agreement contribution on its U.S. financial statements, so any returns from the venture compared to the invested capital base will appear to be very significant from the perspective of Alpha Solarco's U.S. financial statements.

SUMMARY

The accounting policy limiting the contributed intangible assets to 20% of the registered capital seems inexplicable without considering the historical business environment and policy issues surrounding the socialist market economy in China. No other major economic power has promulgated such a rule to date. As stated, the rule applies only to new stock ventures. However, such ventures are the encouraged form of organization whereby foreign business interests participate in the Chinese economy.

The intangibles limitation rule and the attendant potential constraint on the rate of amortization might lead to the under valuation of the contribution of one or more of the parties, and the subsequent overstatement of the future rate of return. Managers and analysts may need to consider these issues when evaluating investment potential and performance.

Looking toward the future, it is unclear what will happen as the 50-year leases being granted by the state on the land expire. At that point, the entire remaining investment base may revert to the state, or may be offered to the venture at new lease terms, or the agreements may be entirely renegotiated. This might tend to further shorten the horizons used by financial managers for evaluating investments in China. Additionally, it is currently unclear how future contributions to the technology of the combined enterprise will be accounted for, because few enterprises have yet reached the stage when this issue will arise. These and other uncertainties will create significant and interesting developments related to the accounting issues as well as the advances in the PRC's economy.

Limitations on Allowances for Doubtful Accounts

An interesting feature of the current changes in accounting taking place within the People's Republic of China is the introduction of an allowance for bad debts for business enterprises. Prior to the recent 1993 reforms, there was no explicit acceptance of this established Western practice within the PRC. As stated in the 1993 *Handbook of the New Financial Regulations,* industry practices (as directed by the various line ministries) govern the allowed write-offs. For example, oil drilling projects may write off up to 2% of ending receivables. Construction, agriculture and realty enterprises are limited to writing off 1%, and for other industries and joint ventures including retailing "at the end of the

year ... can adjust according to 3/10% to 5/10% of the ending balances of accounts receivable" (Ministry of Finance, 1993a., p.174). Foreign owned entities are limited to a maximum write off of 3% of the corresponding ending receivables balances (Ministry of Finance, 1993a; Wong, 1994).

It seems unusual for an accounting standard to limit by statute an amount normally estimated based on individual business circumstances. The lack of a perceived need for any such a standard prior to the recent economic reforms is somewhat explained by the prior business circumstances in China. Also contributing are cultural norms and value systems. The evolution of this accounting concept in the Chinese experience can be viewed as parallel to the privatization of sectors of the economy and to the changes in cultural norms and values. The source of the specific limits imposed on the practice of providing for an allowance for bad debts is not officially explained, but the incremental approach to implementing new approaches witnessed in many sectors of the Chinese business development process (Broadman, 1995, p. xiv) helps to explain the "go-slow" implementation of this accounting concept into Chinese practice.

History

The need to provide an allowance for uncollectable accounts is applicable only when accounts may not be settled. In the state enterprise-dominated society of the pre-economic reform era, state enterprises were virtually assured to continue in business, despite their economic performance. While unprofitable state enterprises were periodically targeted for reorganization in attempts to make them efficient and self-sustaining, so few went out of business that the concept of business failure or bankruptcy did not have practical meaning in the Socialist economy. Even today, state enterprises are dominant in the economy, and they are still resistant to dissolution (Broadman, 1995, p.20). Additionally, sufficient time has not passed to bear witness to any significant levels of business failures by joint venture and foreign owned enterprise.

Several factors contribute to the continuation of this circumstance into the present. First, all newly formed joint venture and foreign-owned ventures must apply to the state for permission to set up business in China. Foreign investment and joint ventures not likely to be successful at the outset, based on estimates and projections, are not approved for operations (Graham and Carley, 1995). Because much of the foreign investment base in China is fairly recent (Coopers and Lybrand CICA, 1994, p.16), little time has passed for newly approved firms to experience reversals in expectations; thus few true business failures have occured. New stock companies must also pass a screening test before being permitted to list shares in the capital market. For example, only companies with profits for three years prior to the listing are permitted to list their shares on the Shenzhen Stock Exchange (Shenzhen Sock Exchange, 1993). The vastness of the Chinese marketplace, significant start-up tax incentives, and the rapid growth and inflation of prices in the Chinese economy have also favored business survival to date. The current relatively low wages and low regulatory and environmental costs of operating in China also enhance profits of new enterprises. The expansion of the private economic base, the expiration of tax forgiveness and tax reduction provisions subsequent to the first few years of operation, and the acceptance of projects with more marginal chances of success may erode this situation over time.

Private enterprises are rapidly developing, emerging to become a 20% segment of the economy from a negligible proportion in 1978 (Broadman, 1995). Although private businesses have always existed, they have tended to be small and serve local markets. For example, local merchandise retailing has been a common private enterprise. The capital contributions needed to support these private enterprises have not been large. Businesses requiring large capital investments have traditionally been state-sector companies. Until recently, venture capital was scarce. Consortia of foreign banks, investment firms, and financial advisers have recently formed ventures to provide capital and facilitate business investment (for example, the Shenzhen Development Company). Because Chinese public capital markets (e.g.., the "A" share stock exchange) were not available until recently and then only for a limited number of approved enterprises, sources of significant private enterprise capital were limited.

Debt, another source of capital financing, was not extensively used to begin new ventures or creatively expand into new markets. In part constrained by the Chinese cultural tendency not to borrow money, loans are made by the centralized banking system only to well-established business enterprises. Loan officers are conservative in their lending practices because once a loan is made, the power of the transaction is said to shift to the debtor, because payments that are delayed or not made may be lost. Bank officials frequently make personal calls on debtors that are not "current" to ask for payments, because legal recourse is complicated by the lack of formalism in contract agreements and the very rudimentary state of the developing legal and courts system. The addition of interest to a debt when payments are not made on a timely basis is not customary because of the lack of an established concept of the time value of money. Today, because increasing inflation eats away at the underlying value of the loans from the creditor perspective, loan practices continue to be conservative.

Because Chinese business relationships are often based on personal relationships and family ties (De Mente, 1993; Zhou, 1991), the formality found in Western contractual agreements is not often present in Chinese agreements. The tendency to do business with friends and family (Osland, 1990) also can make it difficult for the parties to objectively acknowledge the unlikely payment of a known debt. Debts that are troubled may sometimes spark additional loans in the hopes that the original debt may be saved (Broadman, 1995, p. 20). The conservatism witnessed in the granting of loans is not matched by conservatism in acknowledging the troubled nature of a loan.

There is currently no equivalent in Chinese law to the Chapter 11 bankruptcy provisions of U.S. law (Wong, 1994). The recently enacted Accounting System of the People's Republic of China Concerning Foreign- Funded Enterprises (Ministry of Finance, 1993f) contains a section (Chapter XIII, which is six short articles in length) devoted to the order of liability discharges in the liquidation of an entity; however there is no discussion of the procedures leading to this event or the Chapter 11 circumstance by which entities may seek temporary protection from creditors while a reorganization plan is developed by management. The lack of an established legal system to consistently enforce creditor agreements may be one reason such a provision would be premature in the Chinese business environment. Clearly, financially troubled businesses of the future will be forging new ground as they struggle to identify their rights, obligations, and options in the Chinese marketplace.

State enterprises, the keystone of the Chinese economy, have had noted difficulties in clearing their debts to private and other state enterprises. Recent estimates are that over

40% of the state enterprises are in need of some sort of subsidy (Broadman, 1995), and the proportion is actually increasing. Chain reactions in which the non payment of amounts by a single state enterprise can cause a whole chain of enterprises to be unable to clear their trade accounts are common. In serious cases, A ministry or government official (e.g., vice minister) may sometimes be assigned to help the state enterprise clear old debts and unclog the chain of payments. It is anecdotally reported by auditors restating the accounts of former state enterprises in anticipation of their listing new securities on foreign exchanges that it is common to find decades-old receivable balances carried on the enterprise books. The debtor may continue to acknowledge the debt but is counting on the clearance of the payments log jam "soon" to enable the payment. The central government has periodically infused cash into the payments logjam in the form of subsidies to help clear the accounts. However, some sources question whether these subsidies may have also served to fuel the inflationary fires. Continuing cash flow problems seem to be perpetuated by several cultural factors: resistance to waste, reluctance to discard what may be useful (which allows floundering enterprises to continue), and the reluctance to let inefficient state business to fail or reorganize in a timely manner (Broadman, 1995). While the business conditions seem to support the need for a provision for bad debts, the attitude and optimism inherent in the state policies seem to mitigate against the write-off of an account that is expected to be paid.

The reluctance to let State enterprises "fail" seems tied to the political and social ramifications of such an event. Because funds go first to pay employee wages, any cash shortages experienced by the enterprise may result in delayed trade account payments. The importance of a state business entity to a province may preclude the likelihood of the enterprise's closing. The business, however unprofitable, may still provide wages, as well as housing, health care, and other social needs to workers. Concerns about unemployment and social unrest that may result from closing enterprises seem to outweigh the economic costs and subsidies provided (*WSJ* 1994b; *US News and World Report*, 1994).

A government "safety net" for unemployed, displaced, or retired workers is being implemented; it is separate from the local paternal role the business entity was supposed to assume under the Chinese socialist system. Workers were often tied to their province and to the political system through the "work-unit" (danwei) system, which diminished the mobility of workers within society (De Mente, 1993, p. 64). Until the influence of the danwei decreases and these reforms are in place or private sources of health care and other social needs are widely available, worker mobility will be limited, and ties to the provinces and their businesses will continue. Under recently enacted taxation laws, private businesses and joint ventures now make required statutory payments to social welfare funds from profits to compensate the state for providing the traditional social support obligations to workers not covered by private enterprise plans. In the future, with such plans in place, more state enterprises may be permitted to truly "fail."

Consumer

Another major source of credit risk in Western society is debt between consumers and businesses. Fueled by a high rate of consumption, a low rate of saving, and easy credit, Western society seems awash with private debt. In China, just the opposite has traditionally

held true, but changes are on the horizon. In general, Chinese pay in cash and do not widely use checking accounts. Because of the scarcity of available credit and the high interest rates on any privately borrowed money, borrowing has been rare. The savings rate in Chinese society as a whole approaches 40% (Coopers and Lybrand CICA, 1994, p.18). This saving rate is less amazing when one considers the low-cost housing and free health insurance that state enterprises or private employers often pay. Some employers may subsidize or pay for education, so wages, although low, may not be required for these necessities. Nevertheless, families do save to provide the best education for their (often only) child or for his or her marriage. Saving is also common because money in the bank is perceived as a "safe" investment; and there is a general lack of confidence in alternative investments. Because there is little private ownership of land or houses, mortgages are rare. An experiment to privatize housing in Shanghai in 1993 was a resounding failure because citizens were reluctant to leave their relatively meager subsidized housing and take on large debt obligations to finance a better-quality, high-priced ownership alternative (Kahn, 1994b). Foreign retailers are anxious to tap into the perceived pent-up demand for goods and services in China caused by years of saving, the scarcity of high-quality and fashionable items to buy, and the reluctance of the generally conservative population to spend. The generation of Chinese that experienced the great famine of the 1960s is more conservative in its spending habits, but young citizens have little or no knowledge of this period or of the Mao years. They sense the continued improvement in the economy and living conditions, so their propensity to save is not as strong. As these trends continue, more credit defaults by consumers may be recognized and prompt the need for higher allowances.

Consumer credit is difficult to obtain even today. Individual (personal) checking accounts are not widely available, especially outside the large cities. Cash is the common form of payment. Although credit cards are becoming more commonplace, they are often really bank-issued cards prepaid by the cardholder. Thus, they are more like travelers checks and debit cards than the Western notion of credit cards (Smith, 1995). These prepaid cards facilitate transactions and permit travel without the risk of carrying large amounts of cash. Some overdrawals are permitted, but payments of the balance in full at the next payment date is common, because many Chinese are averse to paying interest charges. The local bank nature of the cards also cause the cardholder to incur a percentage-of-purchase charge for cash withdrawals outside the province or area in which the card is issued. Combined with the cultural propensity to conduct business with trusted and known individuals, the concept of a significant risk of bad debts expense in the normal conduct of affairs, even in this sector of the economy, is peculiar to the Chinese.

The different percentage of permitted write-offs for foreign-owned (e.g., 3%) versus Chinese ventures (e.g., 3/10% -5/10%) is not fully explained. The low observed rate of "business dissolution" in the Chinese economy may partially account for the low permitted percentage of receivables that can be written-off by domestic Chinese enterprises. The higher rate for foreign entities may be to accommodate foreign entities that have little experience in the Chinese market environment, and may be more familiar with estimating losses with no set ceiling rate and in a much different business environment. A "go-slow" approach, common in Chinese standard setting and rule making, supports changing the percentages later should actual experience require the change. A number of other, possibly more important, reasons for the current restrictions on write offs have been informally suggested by economic observers:

I. Companies and their auditors have little experience in estimating and auditing these accruals. In the absence of objectivity, the allowances could lead to "secret reserves."
II. There is a strong resistance to permitting the sudden write-off of old balances owed by state enterprises, because this might send a dramatic and unfavorable message to the business community. The enormity of the payments crisis (estimated in the tens of billions of dollars) effectively precludes a quick solution.[2]
III. The state will lose tax revenues for any excessive write-offs because tax revenues are largely determined by accounting profits. In the absence of experience, the allowances could lead to excessive tax deductions.
IV. Any overstated income and overstated assets resulting from overvalued receivables will create the appearance of a more favorable computed rate of return when using income and total assets for the computation.[3] Observed higher rates of return for existing enterprises will attract more investment capital.

As cash flows and their attendant issues become clearer, with or without the accounting recognition at this time, the facts relating to debt and payments will become more evident.

Future

A number of factors will increase the need in China for more liberal provisions for recognizing bad debts as a normal business expense, with fewer constraints on the percentages used.

I. The increase in consumer debt and freer attitudes of the younger Chinese.
II. The improvement or worsening of the state payments situation.
III. The increasing importance of private enterprises.
IV. The liberalization of the bankruptcy provisions and the acceptance of bankruptcy as part of a more market-based economy

The increased availability of credit to businesses and consumers, and the granting of credit by private enterprises to individuals will expand the Chinese economy but will create the continuing need to monitor the level of uncollectable accounts in enterprises exposed to these risks. Failure to recognize all of these costs on a timely basis may delay effective management actions to address problems when they first occur, because the accounting numbers may not provide an appropriate signal. Overstatements of rates of return will be temporary, because cash flows will eventually make any misrepresentations of the accounting numbers evident. The younger generation seems to be more likely to purchase consumer goods and take on debt; as they view the recent increases in the standards of living as a signal of future prosperity. Businesses now have more sources of borrowing, and the cultural stigma of taking on debt appears to be decreasing. It is likely China will have significantly more debt in the future than in the past.

A looming concern is that the payment problems associated with state enterprises will continue to worsen. Payments and subsidies to date have not solved the problem. A day of reckoning similar to the 1980s banking industry crisis in the United States may be loom-

ing, as increasing subsidies fuel inflation. As profitable segments of the most promising state entities are carved out and privatized, the remaining state entities or the remaining parts of the privatized entities may be the most troubled ones (see the later discussion of the effect of carving out portions of state enterprises). In the absence of significant change, the proportion of state entities in trouble may increase. Changes in the social welfare system will permit more worker mobility and lessen ties to the single business enterprise or province in the future. This should lessen the pressure for unwavering subsidization and tolerance for inefficient, marginal state enterprises. The existence of a safety net for displaced or relocating workers may decrease state concerns that employment and social stability are tied to the practice of supporting inefficient enterprises.

Inventory Adjustments for Lower-of-Cost-or-Market Considerations

As currently worded, PRC regulations permit inventory write-downs for clearly damaged, spoiled, or "useless" goods. Such a provision is important in dealing with heavily damaged goods, say from fire or floods, or foodstuffs that cannot be stored.[4]

> All inventories shall be taken stock periodically. If [there is] any overage, shortage and out of date, deterioration and damage that needs to be scrapped, [it] shall be disposed within the year and accounted into current profit or loss.
>
> All inventories shall be disclosed at historical cost in the accounting statement. (Ministry of Finance, 1993b, Article 28)

However, a more subtle issue is the treatment of goods that may not be salable at the "regular" price. Western principles require the write-down of inventory amounts using the lower-of-cost-or-market rule (Committee on Accounting Procedure, 1953). This provision generally forces the recognition of any anticipated losses in the current period rather than recognizing them in the period of sale. Reducing the value of inventories that may have to be sold in other markets and at a reduced price is not a part of the Chinese experience. This is in part due to the rather newly introduced concept of profit, the focus on short time periods to measure profit, Chinese aversion to dispose of goods that still have value, and the ability of the diverse and vast Chinese markets to absorb products in some way. There is a provision for such write-downs, but generally only with line ministry approval, which can be a bureaucratic and slow process. For retailing, there is a regulation permitting retailers write downs to 3/10 of 1% to 5/10 of 1% of the inventory balance at year-end (Ministry of Finance, 1993a). Some analysis and an understanding of both historical, cultural, and current economic factors can explain the relative unimportance of this lower-of-cost-or-market concept in the scheme of the current overall economic activity in China.

History

Under the state's planned economy, all goods produced were deemed useful for some purpose by the central planning authority or they would not have approved their production. Of course, mistakes can occur; overproduction results in warehousing the extra inventory. Except in the case of perishable food items, the state viewed such overproduc-

tion as an advance on future production needs, and the inventory as still being useful at some future date for some purpose. For example, it is common to continue to sell foods until they are clearly spoiled. The concept of freshness dating has not been a part of Chinese practice. The Chinese expression duan chue means shortage economy, needs are always present, and the problem is transportation, not production. Anecdotal stories abound about large amounts of products, including basic factors of production such as steel beams, that have been in storage for decades.

Additionally, the generally frugal lifestyle of the bulk of the population has encouraged a frugal attitude toward produced goods. There is a strong cultural bias against waste of all kinds and thus a general reluctance to discard usable items. The period of great famine in the late 1960s in which 30 million starved over a period of three years further strengthened the general cultural resistance to any form of waste or to discard any usable items. To stem the tide of starvation, many creative food substitutes were developed to address the lack of traditional foods and rice.

Under state planning, practicality dominated the planning of production. The postrevolutionary (post 1949) trend toward uniformity in centrally planned production goods is reflected in clothing production and the consistency with which hard goods and machines were produced from year to year with little attention to fashion or style. This fit very well with the Chinese cultural heritage, which encouraged a "sameness" and simplicity in things and generally discouraged independent thought and expression (De Mente, 1993, p.22). Because little competition existed to encourage product differentiation and the state did not encourage commerce with other nations outside this cloistered economy, there was even less impetus for any unimportant changes to products. "From each according to his ability, to each according to their needs" was the watchword. The communist directives stressed the importance of all labor, however simple, to the economy. In the extremes of the period of the Cultural Revolution, the status of certain recognized professions such as medicine and accounting were further devalued, and the professions made more accessible to the "masses," feeding again the concept of equal status for all workers. Thus, there was a resultant similarity, a sameness in all things, relative to the variety and temporal style in Western culture.

The Current Environment

Industry groups most affected by write-downs for lower-of-cost-or-market issues in Western society are generally those industries in which style, fashion, and high technology (rapid obsolescence) play a role. The current influx of high-technology products and processes into China has been fairly recent and represents the leading edge of today's technology. This is enforced by the screening process through which every foreign business must pass before being permitted access to the Chinese markets and the state priority given to obtaining the latest technology for China (Graham and Carley, 1995). Not enough time has elapsed to complete the current cycle of technological advances to expose some of this merchandise to lower-of-cost-or-market risks. The need for technology in the economy is so vast that even older technology products would likely to be easily absorbed into the marketplace, and at respectable prices.[5] The lack of widespread price competition also mitigates the tendency to reduce prices to "move the merchandise." Finally, despite

inroads by international mass marketers, state owned department stores and traditional practices still dominate retailing (Lachica, 1995; Goll, 1995). Additionally, state price controls mitigate the ability of large enterprises to set prices freely. Reducing prices to attract sales might be perceived as the introduction of instability to the marketplace and as a challenge to state policy. Small enterprises have more discretion, but they do not constitute the bulk of commerce.

When a state-run department store offers a product for sale that does not sell, common practice is to ship that product to another locality within the state retailing chain. This can happen many times before all the product is sold. The subsequent sale may be at the full price. It is uncommon to "unload" the merchandise on a private retailer to resell in a secondary market, because no such market or practice currently exists. From an entity concept perspective (that of the state) therefore, value has not been impaired when the goods can be resold elsewhere and there is no need to reassess the inventory value except for the complication of likely additional shipping charges. In addition, there is a remaining cultural resistance to buying "cheap goods," which are looked down on as inferior (Yan, 1994). This mitigates against the development of a secondary price marketplace, at least until brand names are reliably established and trust for retailing outlets selling the goods is built.

Retailing of clothes, for example, is recognized as an industry in Western society that is traditionally responsive to rapid style changes. Retailers often follow the practice of disposing of unsold goods in secondary, price-sensitive markets. In the PRC, differences in culture and the industry are the reasons that this business practice has not yet achieved significant relevance for this economy.

In the PRC, retailing remains principally a state enterprise. Recently, it was reported that no Western retailers were licensed to operate country wide. In fact, retailers interested in the China market are being advised to test it through developing Hong Kong operations first (Lachica, 1995). The state segment of the retail market across China retains many of the characteristics of the former socialist economy. Practicality continues to overshadow fashion in the goods offered for sale, despite the updating of styles to a greater extent than before. The youngest generation, much more so than the rest of the population, is interested in fashion and individuality. The vastness of the economy in China, a nation of 1.3 billion, permits the transfer of merchandise not sold in Beijing for example, to retailing outlets outside the city or to an outer province, where such goods may be fully salable. They may be transferable to yet another marketplace for sale if they are not sold at their second destination. The generally conservative and similar nature of much of the state-produced inventory softens consumer resistance to purchasing merchandise in these different markets. Even in the sale of nonluxury model cars, differences from model year to model year are seldom significant, and the lack of a concept of a model year lessens the significance of buying an old versus a current model vehicle from available dealer inventory. For the Chinese consumer, an upgrade is to a more luxurious car, not a later model of the same type of car. Reinforcing the marketplace acceptance of products offered for sale at given prices is the lack of a used or second-hand marketplace, even for cars (which are quasi-luxury items, even the less expensive ones). Chinese consumers are generally not interested in used goods; no-longer-needed goods, even cars, are often passed down through family lines as gifts or for nominal charges. In the marketplace, inexpensive items are viewed with suspicion and caution for their safety or quality. In marketing goods, there can be some odd anomalies of the Chinese marketplace. For example, sometimes goods

that do not sell in marketplaces frequented by ordinary citizens actually sell better in stores catering to the wealthier marketplace, but only after the price is *increased* ("adding a zero") to overcome the suspicion of poor quality.

Further reinforcing the transferability of soft goods merchandise for sale in more receptive markets is the lack of any centralized agreement on style leadership. Fashion may be defined locally, or by what is being worn by the local trendsetters, rather than looking toward a commonly accepted seasonal style across all provinces. Advertising has not as yet made major inroads with respect to national fashion trends. However, advertising for electronics, cigarettes, personal care products such as shampoo, over-the-counter medicines and skin creams, and luxury motorcycles and sport bicycles is now common (Yan, 1994; Kahn, 1995).

The diversity of climate also works against an easy definition of a single national style or trend. Responsive to the climate, the sweltering summer heat of the south and the brutal winter cold of the north have traditionally focused attention on practicality rather than fashion. Today, many office buildings and homes, even in the cities, do not have air conditioning. Many commuters arrive at their offices on crowded buses and bicycles, so practicality continues to be a primary consideration, although clearly the scene is changing. The proximity of the southern provinces to more stylish goods from Hong Kong and other Pacific-Rim manufacturers and the year-round usefulness of light-weight clothing have made the introduction of style and fashion to the southeastern region in China easier.

The private sector retail industry in China is not dominated by retail giants such as Sears or Macy's. Estimates are that the private sector retail industry remains small relative to that of the state sector. Continuing high rents for private retail outlets, sometimes reported to equate to more than 30% of gross revenues for some foreign enterprises (Lachica, 1995), will limit the growth of this segment of the economy. The highest fashion merchandise is often imported, albeit from nearby centers such as Hong Kong and other Pacific Basin locations. High-end merchandise boutiques carrying designer label fashions target the wealthier cities such as Beijing, Shanghai, and Guangzhou. Although this type of merchandise is more susceptible to lower-of-cost-or-market inventory valuation, these retail businesses do not fuss over accounting principles, because many Chinese retail businesses are either individual proprietorships or family businesses. Similarly, street vendors, a growing outlet for retail goods, are relatively unaffected by accounting principles. Manufacturers within China that produce goods under contract for either export or internal resale are generally not exposed to the risks of fashion or diminished future salability. Thus, in the absence of outside investors to protect or large private enterprises needing significant banking or venture capital, the concept of lower-of-cost-or-market write-downs of inventory has little current relevance.

Two other significant business factors also mitigate against the acceptance of management-determined write-downs. First, state tax revenues are determined from accounting profits. The State Taxation Bureau is concerned that discretion in this area will be abused. Second, the lack of a mature and trusted independent auditing profession to oversee the reasonableness of such write-offs for businesses creates a reluctance to introduce the concept on a wide scale (Graham, 1996), opting instead to permit its application only with the direct oversight of the state.

Future Directions

Clearly, many Chinese, particularly the younger generation, are expressing interest in more trendy and fashionable goods. As continued development improves living standards and prompts more consumer spending, this interest will be even more pronounced. Regional differences may remain, but technological goods, climate-regulating devices such as air conditioning, and more comfortable mass transit will help expand the national market for some fashion goods and lessen the need always to put practical considerations first in the more extreme climates. With a more defined fashion market and more private enterprises conducting business, a larger portion of unsold out-of-fashion merchandise may need to be sold in secondary markets, with price breaks needed to induce purchases. This may create an increased need for a more flexible inventory write-down provision in the accounting standards. Growth in the confidence of independent CPAs to monitor the reasonableness of such valuations will also lessen concerns about manipulation of taxable and reported income in the future.

Currently, business design, manufacturing and retailing are undertaken primarily by state-owned businesses,[6] or by the growing number of relatively small, private businesses. The retailer generally absorbs the risk of any merchandise that does not sell, but the vastness and diversity of the Chinese "market" currently mitigate the risks of significant loss. Later, private businesses that are larger and more integrated may develop. For the moment, they do not seem to exist. The possible introduction of private mass marketing and discount businesses such as Wal-Mart and K-Mart (Lachica, 1995) may help refine the price sensitivity of consumers and introduce large-scale private retailing into the environment. However, barriers to entry in terms of high rents and state-imposed requirements to market local merchandise will slow the influx of foreign retailers and marketing methods. The issue of market price impairment and write-downs for market price-impaired products may develop further in the future, but there appears to be no immediate need for this accounting principle in China.

THE ENTITY CONCEPT - A CONCEPTUAL DIFFERENCE

For the most part, since the most recent accounting standards were issued in 1993 and 1994, the official accounting standards of the PRC appear similar to Western or IASC standards. In a few areas previously discussed, the general standards appear to have been adapted in specific ways to the Chinese environment. However, some fundamental changes in society since the 1970s have complicated the simple translation of former Chinese accounting principles into their new form. One particular concept, the entity concept, is difficult to apply in China. Confusion about this concept has ramifications for managers, investors, and creditors and may become more pronounced as time passes. Alternatively, the rapidity with which International and Western standards are being integrated into Chinese business practices and the further development of the market side of the economy may mitigate the effects of this conceptual difference. Auditors restating the financial statements of former state enterprises have encountered numerous examples of this conceptual conflict in practice.

A fundamental cornerstone of Western accounting theory is the entity concept. Currently under examination in conjunction with the Financial Accounting Standards Board's (FASB) project on consolidations, the entity concept is described rather broadly in FASB Financial Accounting Concepts Statement No. 6 :

> All elements are defined in relation to a particular entity, which may be a business enterprise, an educational or charitable organization, a natural person, or the like .... An entity may comprise two or more affiliated entities and does not necessarily correspond to what is often described as a "legal entity" .... The definitions may also refer to "other entity" .... For example, employees, suppliers, customers or beneficiaries, lenders, stockholders, donors, and governments are all "other entities" to a particular entity.

This broad definition allows for flexibility in defining a specific entity, but what has become accepted is that, a "line" is clearly to be drawn around that specific reporting entity for purposes of defining the entity, and all other entity relationships need to be defined in terms of whether they are within or outside that defined entity. In a society composed of predominantly independently owned units, defining entity units can appear to be deceptively simple. In a socialist market society, defining entity relationships can be more difficult.

History

In recent history, the Chinese socialist economy has defined a business entity from a somewhat geographical perspective. A province or geographical subdivision might be viewed as an entity, with all businesses within it a part of the economic planning unit (Sweeney, 1993). Following the socialist model in place after 1949, the economic unit was responsible for achieving state planning targets. Accounting was viewed as a tool for reporting achievement of the unit's goals and for purposes of levying taxes on any "profits" produced. Sweeney states that residual funds were not frequently found, because the funds-oriented accounting methods facilitated the creation of reserves or fund transfers to ensure that current budget allocations and future goals would be met. The lack of pressure on management for profits (performance was measured primarily by output and meeting state goals) or investors (there was no private investment market) also lessened the importance of profits to the economic system.

Unprofitable entities were subsidized by the state if they were important businesses (Broadman, 1995; Kaye and Cheng, 1992). Few unprofitable business were closed; the prevailing belief was that these failing enterprises would be reorganized and made profitable in the future. One other factor contributing to the longevity of failing state-owned enterprises may be the definition of an entity. Under the socialist system, the reporting "entity" was responsible for employing the people in the province, subsidizing of or providing of housing, all medical care, and the retirement needs of its citizens. These were all accounted for in the accounts of the state enterprise. Thus, closing or relocating a company might have a devastating impact on the people living in the area who worked for the enterprise. Even today, it is reported in the popular press that officials are likely to subsidize state owned businesses to avoid social unrest and unemployment (House, 1994).

The lack of a market economy dictated that state enterprises' prices of production elements as well as sales prices be state controlled prices or subject to some negotiation between the managers of the individual subunits. Little of the concept of market-priced

transfers was understood, because no benchmark for a market price was available. Disputes were settled by negotiation and agreement; occasionally state intervention was necessary to mediate the dispute. The lack of a market economy and the presence of a planned economy forged relationships between suppliers, manufacturers, and distributors. Direct competition did not exist, so taking business elsewhere was not a viable option. Thus, long-term relationships and an understanding of mutual dependency developed between the economic subunits.

To show the relationships of state entities and the flexibility in reporting the results of operations, an illustration is presented. The tire manufacturer in the illustration is a major state-owned enterprise and a major employer and provider of social welfare benefits (health care, housing, retirement benefits) in the local province. The state has identified the tire company as a profitable entity and has decided to form the manufacturing part of the former state enterprises as a joint stock company, with foreign investors offered half of the capital stock. Figure 1 shows the relative contribution of each segment of the former entity to the overall performance of the state enterprise before the "carve-out."

In this illustration, the companies within the outline are members of the same economic reporting unit. They may operate under one company name or be part of a geographic region that is considered a single entity. Suppose in the illustration hypothetical profits[7] could be deemed to be 10 for the raw materials provider, 5 for the machinery supplier, and 10 for the tire company due to its sales to local and national markets. The entity as a whole might thus be identified as "profitable."

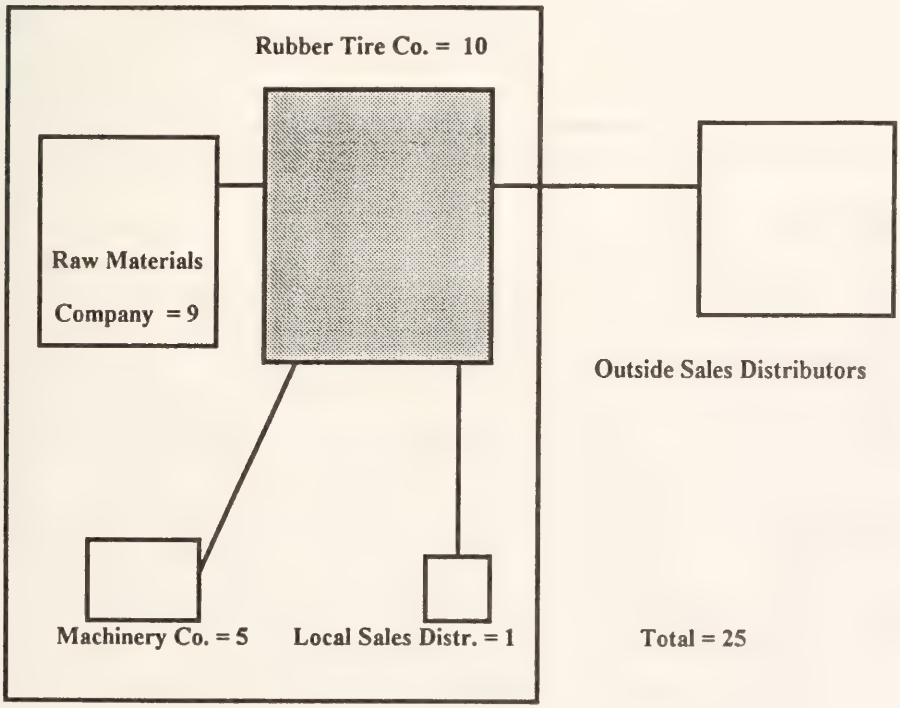

Figure 1. Enterprise Relationships

If the companies are not operating under a single name they may be independently managed, but are mutually responsible to the same political officials and for meeting state production goals. It is likely that many managements include political officials, relatives of other managers, or other personal associates of the managers because as it was considered good business to work only with those with whom one had a personal relationship. In Chinese society, blood family relationships are of great significance, and nepotism and other forms of family favoritism are common among management groups (Hall, 1990). One can find instances of a management position being passed down to relatives, as one might do with property.

Under soviet accounting, accurate records were maintained for each unit; however, the unit was never "consolidated" in the Western sense,[8] but the entity viewed as the "sum" of the individual unit results (Lou et al., 1987). Intercompany transactions within the economic unit or entity were not eliminated, and nor were there accounting guidelines for setting transfer prices for transactions among entities. Products distributed outside the entity were often taken through state distribution channels or other state businesses, thus effectively controlling prices and production through the state plans and price controls. Even recently, the concepts of eliminating intercompany transactions or their profits are not universally followed (Sweeney, 1993).

Pricing within the entity was often negotiated within such constraints as price controls, production targets, the desire to minimize taxes, and the creation of reserves to protect against unexpected events in future periods. It has been reported that many state enterprises were reporting losses prior to the beginning of the current economic reforms. Many still are, based on recent estimates that over 40% of state enterprises are not profitable under current Chinese accounting standards (Broadman, 1995). In view of the fact that the use of many Chinese accounting principles that would tend to support a profitable picture, more state enterprises would undoubtedly be troubled if measured under International Accounting Standards or Generally Accepted Accounting Principles (GAAP).

Current Economic Reforms

The current period of economic reform is attracting permanent foreign capital in a variety of ways including ventures with foreign enterprises and marketing ownership shares to foreign capital sources outside China. Even within China, privatization is underway. Chinese citizens can purchase shares of selected Chinese entities on the "A" share stock exchanges. Unlike many developing countries that initially tried to finance both infrastructure and business expansion through debt, China is attracting permanent foreign capital for a large proportion of its business expansion.

State businesses selected for privatization are generally the most profitable of state enterprises. They are then carved out of the previous economic entity and are reformed in their new status, for example, as a stock company. Nevertheless, the state indirectly through an agency or directly through ownership may remain a partner in the reconstituted enterprise. If the restructured company is to be listed on an exchange such as in Hong Kong or New York, its accounts need to be restated to a historical cost basis to conform with the accounting principles acceptable to those listing exchanges. This can be a lengthy and expensive process because of the lack of market prices for many transactions, the use of dual exchange rates prior to 1994, and the voluminous detailed records that must be

reviewed to separate the new entity from the old one. It has been publicly reported that the restatement of Brilliance Automotive to GAAP principles involved more than 15 separate businesses and took more than 11,000 professional hours to accomplish (Sender, 1992). Similarly, the restatement of Tsingtao Brewery statements required more than 6,000 professional hours (Curran, 1994).

Even after the separation of the new company from the former economic unit, the problems of transfer pricing and related parties may still exist. It should be noted that there is no Chinese accounting standard requirement that related-party relationships be disclosed (Wong, 1994). Although the concept of arms-length- transactions is reportedly not yet well understood as in China, awareness of the potential importance of this concept is developing. Additionally, it would be counter to Chinese thinking to consider the state to be a related entity to a new stock enterprise, even though it is often an owner of shares in the new enterprise and a direct owner of many supplier and resale outlets that trade with the new enterprise.

The separation of many social welfare costs (education, health care, unemployment, and retirement) from the accounts of the new entity may shift some of the social cost burdens back to the remaining state-owned entities, even though foreign entities and joint ventures are now required to make some contributions (a percentage of profits) to state social welfare funds beyond their tax commitments.

Thus, a challenge currently facing many of these converted enterprises is the measurement of true, long term profits for the reconstituted enterprise. Without readily determinable market transactions to use as a reference for many important business transactions, it is difficult to identify whether, on an arm's-length basis, the revised enterprise will continue to be profitable as the economy becomes more market-driven and prices for inputs and outputs are driven by market prices.

Add to that the fact that in the definition of the business to be privatized, it is acceptable to "redraw" the entity lines wherever it is reasonable to do so. The auditor and investor alike should recognize the highly judgmental nature of the entity definitions and the interrelationships of various transactions.

Returning to the example discussed earlier, it would certainly be plausible to have the manufacturing enterprise alone identified as the new stock company, because there is some sensitivity to developing foreign partnerships involving the ownership of natural resources and raw materials. Based on the careful carving of the enterprise boundaries and using controlled prices, negotiated prices, or mandated transfer prices, the reported profits of the new privatized entity might be higher than its previous reported contribution proportion. Additionally, many of the social welfare costs may be shifted to the remaining state-owned enterprises (the raw materials provider, etc.) as is common when privatizing state enterprises.

In Figure 2, the newly redefined tire company might be able to report a revised profit of 20 after the conversion, even if this was somewhat at the expense of the other enterprises that remain under state control.[9] Viewed from one perspective, absent tax effects, the state may remain indifferent as to which entity reports the profit or accepts the social welfare costs, so long as the social welfare responsibilities are met. Differential tax policies between foreign, joint venture and domestic enterprises can mitigate that indifference and make it more desirable to receive increased taxes from enterprises with hard currency foreign partners. Overall aggregate losses of state-owned enterprises are sizable, and seem to be increasing (Broadman, 1995, p. 12-13). Nevertheless, the attraction of foreign hard cur-

rency permanent investment can be a positive end result of the carving-out of business enterprises and a strong motivator for defining profitable entities.

Future Directions

The continued orientation of China to a market economy will probably over time affect the issues related to determining entity profits and the importance of carefully defining the "profitable" entity. The increased privatization of formerly related enterprises will further ensure arm's-length and market prices as fewer entity interrelationships will be mandated by the state and individual businesses seek to maximize profits and compete. The continued development of a national policy and national economic reforms covering employment, health care, and retirement (*NYT*, 1994) will likely soften the current linkage of the business entity, the local province economy and the welfare of the citizens. With a safety net to buffer unemployment and basic needs, increased competition can then be pursued without the current high risk of social consequences and possible political unrest.

Additionally, increased privatization will create many more small, autonomous units. If a more open market develops as a result of the numerous foreign and domestic business entities, the direct state influence on the details of some sectors of the economy will likely be reduced. When this happens, the concept of the entity as an autonomous unit and the consolidation concepts will be more widely understandable and practiced. Accompanying this transition also will likely be the recognition of accounting's increased importance as the "language of business."

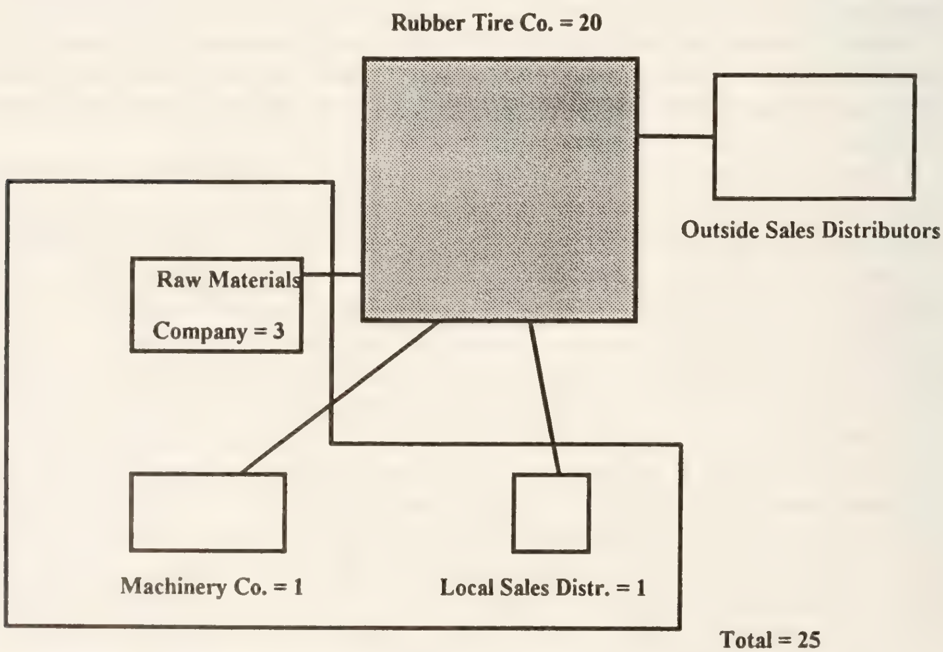

Figure 2. Enterprise Relationships Subsequent to Carve-Out

SUMMARY AND CONCLUSIONS

Accounting principles in the People's Republic of China have undergone dramatic reform since the 1970s. In moving toward a more market-driven economy, the market structures and accounting rules have changed to the point that today many of the concepts and principles familiar in the most advanced economies are part of the Chinese regulations and laws. However, this adaptation process is not complete. The principle of Guo Qing implies that change will be implemented only in conjunction with Chinese needs. As evidenced in the statutory restrictions on the value of certain contributed intangibles, the write-offs of accounts receivable, and the discretionary write-downs of inventory for lower-of cost-or-market considerations, Chinese historical, cultural, and economic circumstances will affect some areas of accounting practice.

Additionally, differences in perspective that are attributable more to history than to specific accounting rules remain. Viewed from the perspective of socialist society since 1949, the Western concepts of the entity, and independent markets, market prices, and a multitude of separate businesses,are difficult to define in this "socialist-market" economy.

Understanding the underlying factors encouraging certain practices can contribute to a better understanding of the reasons for the differences and greater tolerance for those differences. Additionally, businesspeople, auditors, and investors need to understand the implications of operating in an environment that is strongly linked to a very different recent and ancient past. The simple imposition of business and accounting principles from one environment to another is difficult, often incorrect. In light of the dramatic changes in the accounting principles of the PRC since the 1970s, the remaining issues of difference can be an even more fascinating area of study.

NOTES

1. Leasing is generally the only practical vehicle for obtaining land (fron the state) for use in an enterprise. The state retains ownership of almost all land.
2. One estimate suggested that a doubling of the allowed percentage could result in a $6 billion write-off.
3. The overstatement of a numerator in a ratio of income to assets has a greater impact on the ratio than the overstatement of the denominator, due to the commonly larger value of the denominator.
4. Refrigeration in the home and other preservation methods were not common until recently in China and are still uncommon outside the cities.
5. For example, any available 8086 or 286 chip computers would likely be absorbed by some segment of the marketplace.
6. This would include the declining proportion of wholly state-owned enterprises as well as the increasing number of stock companies in which the state or a state agency remains the significant shareholders.
7. It is acknowledged that prior to the recent economic changes, the concept of "profit" was not part of the Chinese system. However, for purposes of exposition the term is used to mean the hypothetical profit remaining for each unit at year-end. Many times unused funds remaining at year-end were absorbed in a reserve.
8. Including the elimination of intraentity sales and profits, as well as the segregation of the relative contributions of the different business segments in disclosures.
9. It has been observed that this sort of shift of economic burden to state owned enterprises is currently seen in the collective ownership entity segment of the economy. Collective "profitability" has been attributed to shifting social welfare costs to state-owned enterprises and dependence on state businesses for materials and output markets (Broadman, 1995).

Appendix A. Scheduled Meetings and Interviews—Summer 1994

People-to-People International, Citizens Ambassador Program		
Ministry of Finance	7/29/94	Beijing
China Association of CPAs	7/29/94	
Deloitte, Touche Tohmatsu - China	7/29/94	
PROC State Taxation Bureau - Foreign Tax Department	7/30/94	
China Certified Accountants and Financial Management	7/30/94	
Shanghai Audit Bureau	8/2/94	Shanghai
Zhong-Hua (Shekou) CPAs	8/2/94	
Shu Lun Pan CPAs	8/2/94	
Dept. of Accounting, Shanghai University of Finance and Commerce	8/3/94	
Price Waterhouse Da Hua	8/3/94	
Shenzhen Office of China Certified Accountants and Financial Managers	8/5/94	Shenzhen
Shenzhen Stock Exchange	8/5/94	
China International Finance Company, Ltd.	8/5/94	
Zhonghua CPAs	8/5/94	
KPMG Peat Marwick (Hong Kong)	8/5/94	
Price Waterhouse	8/5/94	
Shenzhen Shekou Schinda CPAs	8/6/94	
Shenzhen Stock Exchange	8/6/94	

Also various personal interviews of individual auditors, financial advisers, Chinese CPAs, and businesspeople currently investing in China. Informal meetings were also held with other organizations and corporate representatives.

Appendix B. Accounting Principle/Practice Differences in the PRC

Recent years have brought vast changes to the accounting rules and regulations of the PRC; continuous evolution of these rules is expected. Apart from differences that can arise from the lack of detailed implementation guidance, examples to be used as guidance, and experience with the new rules, some familiar concepts are noted to be currently unaddressed for PRC enterprises. These include but are not limited to the following:

- Accounting for or disclosure of contingencies
- Subsequent events reporting
- Subsidiaries in hyperinflationary countries
- Segment financial reporting
- Disclosure of changing prices effects
- Accounting for government grants
- Retirement plans

Additionally, in a number of areas current PRC/foreign investment enterprise practices differ from more familiar IASC or U.S. GAAP:

Principle/Practice	*PRC/Foreign Enterprise Treatment*
Marketable securities	Reported at historical cost.
Inventories	Historical cost the rule. Damaged and scrap value merchandise may be written-off, but permission from the state may be necessary to reduce value for a lower-of-cost-or-market consideration
Accounts receivable	Write-offs of accounts proven to be uncollectable are permitted. Allowances for bad debts are limited to .3 to .5% of the ending receivable balance and 3% fo foreign-owned entities

(continued)

Appendix B. Accounting Principle/Practice Differences in the PRC (continued)

Financing leases	There is no mention of applying present value concepts (i.e., capital lease treatment) to the asset and obligation. Cost is generally stated in the lease. The interest component of any payments may not be recognized under current regulations.
Fixed assets	Interest on loans prior to placing the asset in service is capitalized. Ministry of Finance guidelines set methods (generally straight line), salvage value, and useful life. Foreign enterprises may use accelerated methods.
Intangibles	Preoperating costs are deferred until operations begin and are amortized over 5 years or more. Other intangibles are amortized over their statutory lives, useful lives, or at least 10 years.
Investment in subsidiaries	PRC rules are flexible, but a 25% ownership triggers the equity method for foreign companies.
Revenue recognition	Often closely tied to cash receipts
Reserves and staff welfare costs	Reserves were frequently used under the socialist system to match sources and uses of funds and ensure the budget was spent. Foreign entities now follow familiar IASC/GAAP rules. Chinese and most foreign enterprises must deduct housing allowances and pension costs as well as any government required reserves after taxes in the income statement.

Appendix C. Selected Financial Disclosures of Chinese Joint Ventures

The selected financial disclosures of the following entities are available from the authors. Alpha Solarco is specifically discussed in the paper

MITEL CORPORATION; 03/31/94; note-5

PHOENIX INFORMATION SYSTEMS CORPORATION; 03/31/94; note-1
NOTE-1 [CONSPOL ACQUIS COMMT REORG]

WATTS INDUSTRIES INC; 06/30/94; note-13
NOTE-13 d

HE-RO GROUP LTD (THE); 05/31/94; note-5
NOTE-5 [INSIDR]

BONSO ELECTRONICS INTERNATIONAL INC; 03/31/94; note-2
NOTE-2 [PRACT] and NOTE-4 [CONSPOL] and NOTE-13 [CONSPOL PROP]

ION LASER TECHNOLOGY INC; 03/31/94; note-9
NOTE-9 [INSIDR CONSPOL]

RESPIRONICS INC; 06/30/94; note-12
NOTE-12

UNIVERSAL SECURITY INSTRUMENTS INC; 03/31/94; note-3
NOTE-3 [CONSPOL INSIDR]

HATHAWAY CORPORATION; 06/30/94; note-1
NOTE-1 [PRACT]

HE-RO GROUP LTD (THE); 05/31/94; note-11
NOTE-11 [COMMT COMPEN]

(continued)

Appendix C. Selected Financial Disclosures of Chinese Joint Ventures (continued)

ALPHA SOLARCO INC; 05/31/94; c/f; c/f-oper
CASH FLOWS FROM OPERATING ACTIVITIES

Cash flows from operating activities:		
Net income (loss)	$ (1,719,743)	$ (5,315,426)
Adjustments to reconcile net income (loss) to net cash used in operating activities:		
Depreciation and amortization	357,024	432,314
Investment in China Joint Venture	(80,916)	—
Loss on disposal of property	44,021	793,375
Reserve for note receivable	—	232,302
Research charge-off from Solectric merger	—	3,083,591
Decrease (increase) in:		
Accounts receivable	(34,009)	(92,120)
Inventory	(38,557)	(141,448)
Prepaid expenses	20,275	(13,754)
Other assets	(10,000)	607
Increase (decrease) in:		
Accounts payable	(113,989)	16,539
Accrued liabilities	71,624	65,096
Customer deposits	894,541	—
Net cash provided by (used in) operating activities	(609,729)	(938,924)

ALPHA SOLARCO INC; 05/31/94; note-3
NOTE-3 [CONSPOL COMMT]

3 - Joint Venture Agreement

On February 18, 1991, Alpha Solarco Inc. of Ohio entered into a joint venture agreement with Sun Power Systems Ltd. ("Sun"), a Hong Kong-based trading company, and Qinhuangdao Electronic Transistor Manufacturing Plant ("QHD"), a business entity operating in the Peoples' Republic of China, for the formation of a Chinese joint-venture company called Qinhuangdao Alpha Solarco Power Ltd. (the "Chinese Joint Venture Company").

Under the terms of the Joint Venture, QHD owns a 60% equity interest in exchange for a cash capital contribution of $ 2,400,000; Alpha Ohio owns a 35% equity interest in exchange for an in-kind contribution of $ 650,000 in the form of equipment, and $ 750,000 in the form of a technology transfer, and Sun owns a 5% equity interest in exchange for a nominal in-kind contribution of $ 200,000.

Alpha Ohio's contribution involves two components. The first component of Alpha Ohio's contribution relates to a separate Technology Transfer Agreement (i.e., license) with the Chinese Joint Venture Company. Under this Agreement, a $ 1,000,000 lump sum non-refundable advance royalty is established. Alpha Solarco, however, has contractually agreed to accept only $ 250,000 of this amount, with the other $ 750,000 constituting a portion of Alpha Ohio's $ 1,400,000 total capital contribution to the Chinese Joint Venture Company.

The Technology Transfer Agreement also provides for continuing royalties payable over its 15-year term of $.05 per watt of electrical generating capacity of products manufactured by the Chinese Joint Venture Company during the first year, $ .03 per watt in the second year, $ .02 per watt in the third year, and $.01 per watt thereafter. Continuing revenues from the Chinese Joint Venture Company are also expected to be generated through sales to it of certain key components necessary for production, as well as additional equipment and tooling for possible future plant expansion.

(continued)

Appendix C. Selected Financial Disclosures of Chinese Joint Ventures (continued)

The second component is a separate Turnkey Manufacturing Agreement under which Alpha Ohio will sell the necessary equipment to the Chinese Joint Venture Company for an aggregate selling price of $2,800,000; Alpha Ohio will accept $2,150,000 cash for this equipment, and the remaining $ 650,000 of the price will constitute the remaining portion of Alpha Ohio's in-kind capital contribution to the Chinese Joint Venture Company. The $2,150,000 cash purchase price is payable to Alpha Ohio (by confirmed letter of credit) as equipment is delivered.

Under generally accepted accounting principles, the Company will not be able to recognize any investment attributable to its in-kind capital contribution of $1.4 million, except for its proportionate share (35%) of its basis in the tooling and equipment transferred to the Chinese Joint Venture Company. As of May 31, 1994, the Company had completed the sale of technology and had also substantially completed (90%) the sale of equipment.

At May 31, 1994, the Chinese Joint Venture was still in the construction phase. Accordingly, no operations had transpired. Management expects the venture to be completed and production started by December, 1994.

Summary details of the financial position (converted to U.S. dollars) of the joint venture as of May 31, 1994, follows:

Current assets	657,616
Capital expenditures in progress	3,091,553
Intangible assets	1,614,081
	$5,363,250
Liabilities	1,363,250
Equity:	
QHD (60%)	2,400,000
Alpha (35%)	1,400,000
Sun (5%)	200,000
	5,363,250
Alpha's recorded equity	1,400,000
Less Alpha's share in:	
Technology sold ($ 1,000,000 x 35%)	(350,000)
Equipment sold ($ 2,800,000 x 35%)	(980,000)
Plus Alpha's basis in equipment sold	252,794
	322,794
Less estimated revenues not yet earned	179,395
Carrying value of investment	143,399

The above financial information has been derived from the audited financial statement of the joint venture. This financial statement, which has been provided to the Company by the joint venture's accountant, has been prepared on the accrual method of accounting using the principles of accounting generally accepted in China. The Company does not believe that the carrying value of its investment in the joint venture would be affected by any differences between this method of accounting and U.S. generally accepted accounting principles.

ALPHA SOLARCO INC; 05/31/94; note-8
NOTE-8 [DEBTAC]

8 - Notes Payable and Long-Term Debt

Notes Payable

Notes payable represents amounts due private investors of the Company who lent funds primarily for the acquisition of AMG and to provide the necessary working capital required to perform the China Joint Venture. The notes, which are unsecured, are repayable at various times during the next year and bear interest at rates upward to 10%.

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Developing Accounting Standards on the Basis of a Conceptual Framework by the Chinese Government

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Key Words: People's Republic of China; Chinese accounting; Accounting standards; Conceptual framework; Financial accounting; Financial reporting

Abstract: *Contradictory to some existing theories, the Chinese government has been developing accounting standards on the basis of a conceptual framework (CF) titled Accounting Standards for Business Enterprises (ASBE). This article evaluates the role of the ASBE and explores the potential benefits and risks of and the reasons for the adoption of a government-controlled and CF-based approach. We argue that a CF can play an important role even if accounting standard-setting is controlled by the government; however, the ASBE provides an insufficient basis for developing accounting standards.*

The development of conceptual frameworks (CFs) has become fashionable over the last two or three decades, although academic interest in them has a much longer history (Solomons, 1986). Following the CF of the Financial Accounting Standards Board (FASB) (FASB, 1978, 1980a, 1980b, 1984, 1985), the International Accounting Standards Committee (IASC) (1989) and accounting standard-setting agencies in Australia (AARF & ASRB, 1990a, 1990b, 1990c, 1992), New Zealand (NZSA, 1991a, 1991b, 1991c, 1991d, 1991e, 1991f, 1991g), Canada (CICA, 1991), and the United Kingdom (ASB, 1995) have developed or are developing conceptual frameworks. Added to them is a Chinese attempt, the Accounting Standards for Business Enterprises (ASBE) (The Ministry of Finance, 1992a).

The main purpose in formulating these CFs is to form a basis on which to set accounting standards. Their development signifies a shift from the traditional piecemeal accounting standard-setting approach to a normative approach based on an agreed upon CF. All the CFs mentioned except the Chinese one came into existence, however, long after many accounting standards had been developed using the piecemeal approach. China, however,

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had no accounting standards before the ASBE was promulgated, if one distinguishes between accounting standards and the uniform accounting systems (UASs) used under a planned economy. This article evaluates the role of the ASBE in accounting standard-setting and the potential benefits and risks associated with this Chinese approach.

Dopuch and Sunder (1980) hypothesize that the demand to develop a CF is inversely related to the power of enforcement that the standard-setting agency can command. In contrast, Peasnell (1982) argues that a CF has an obvious role only when both the power and the responsibility relating to accounting standard-setting are delegated to the accounting profession. In China, however, the Ministry of Finance, a governmental office, has both the power and the responsibility, but it has started an accounting standard-setting program with a CF (the ASBE) on which to develop specific standards. Thus, the Chinese standard-setting experience does not seem to support the expectations of either Dopuch and Sunder or Peasnell. This article explores the reasons for the use of a CF by the Chinese government.

This article is organized as follows. The Chinese approach to accounting standard-setting is outlined in the first section. The rationale for the adoption of a CF-based approach is presented in the next section, and the reasons for the use of a CF by the Chinese government are examined in the following section. The potential benefits and risks of the government-controlled CF-based approach are assessed. One conclusion from the second section is that whether the potential benefits and risks of the CF-based approach will occur depends on the extent to which the CF is complete, theoretically sound, and logically robust. Accordingly, the ASBE is assessed in the fourth section, resulting in some predictions concerning the specific standards developed on the basis of the ASBE. These predictions are tested in the fifth section by an evaluation of the specific standards issued so far. The final section provides a summary and some conclusions.

THE CHINESE APPROACH TO ACCOUNTING STANDARD-SETTING

Chinese accounting standard-setting has involved multiple stages. In March 1985, a set of accounting rules, the Accounting System for Sino-Foreign Joint Ventures, was issued by the Ministry of Finance. The system includes many of the principles, concepts, and methods contained in the ASBE. The issue of these rules may be seen as the prelude in the accounting standard-setting process. Following this, two additional steps were planned (AAB, 1994): first to develop a set of basic accounting standards (the product of which is the ASBE) and second to issue standards covering specific topics.

In 1992 the ASBE was introduced. It is seen as a conceptual framework that will guide the setting of the future accounting standards. Its development began in October 1988, when an accounting standards task force (ASTF) was established under the Accounting Affairs Bureau (AAB), which has been the authoritative body in dealing with accounting affairs and is subordinate to the Ministry of Finance. The ASTF spent a year in preparing a feasibility study and another year in drafting an outline. In November 1991, the draft document Basic Accounting Standards for Business Enterprises was completed and published for public hearings in the name of the Ministry of Finance. After wide consultation and discussion, including an international symposium on accounting standards held in February 1992, the revised statement (renamed ASBE) was submitted to the State Council.

Following its approval, the Ministry of Finance issued the ASBE on November 30, 1992, and it became effective on July 1, 1993.

The ASBE is seen as a set of basic accounting standards, or a CF. It consists of 10 chapters addressing general rules, accounting principles, assets, liabilities, equities, revenues, expenses, profits, financial statements, and supplementary articles. The main areas covered in the ASBE include its objectives, the users and objectives of financial accounting and reporting, accounting postulates, general accounting principles and qualitative characteristics, elements of financial statements, recognition, measurement, and financial statements. An outline of this document is presented in Appendix 1.

Following the issuance of the ASBE, accounting standards for 14 specific areas have been issued to date in the form of exposure drafts (AAB, 1995). These areas are accounts payable (issued on February 14, 1994), accounts receivable, inventories, investments, capitalization of loan expenses, the balance sheet, the income statement (issued on July 6, 1994), fixed assets, intangible assets, owners equity, long-term construction contracts, research and development, the cash flow statement, and basic bank transactions (issued on April 21, 1995). More standards are planned for consolidated accounts, income tax, foreign currency transactions, income recognition, accounting policies and accounting estimate changes, leasing, deferred assets, pensions, contingencies, and liquidation (AAB, 1994).

To develop specific accounting standards, an Accounting Standard-Setting Core Group was established within the AAB consisting of the AAB's directors and its section heads. This group, which reports to the leadership of the Ministry of Finance, makes overall plans and decisions on major issues. Four task forces responsible for drafting specific standards were created. In addition, two advisory groups were appointed: the Home Advisory Group consisting of domestic experts including leading academics and the Deloitte Touche Advisory Group.

The development of a specific standard involves four stages. The first is planing which rests with the Accounting Standard-Setting Core Group; it decides on which standards to develop and assigns tasks to the task forces. The next stage is research undertaken by the task forces with assistance from the Deloitte Touche Advisory Group. Following this is the drafting phase that produces discussion drafts and then exposure drafts. The final stage involves public hearings. The exposure drafts are first reviewed by the Home Advisory Group and then are put before the public. After incorporating opinions from various sources, the exposure drafts are presented to the Accounting Standard-Setting Core Group and then to the Minster of Finance.[1]

The development of accounting standards in general and the ASBE, in particular, was guided by three principles (Ministry of Finance, 1992b): (1) the standards should be adapted to a socialist market economy and an economic structure that has many forms of ownership with the public ownership having a dominant position; (2) the standard-setting should draw on foreign theory, international conventions, and China's own practices, and should be in harmony with the standards promulgated by the IASC to the extent possible; and (3) the standards should be in harmony with fiscal and taxation rules but should maintain their independence.

The Chinese accounting standard-setting program was motivated by three types of pressure. The first was to harmonize domestic accounting practices. Prior to the existence of the ASBE, various uniform accounting systems (UASs) had been used; they were essentially charts of accounts and detailed explanations as to how and when to use the accounts,

plus detailed rules or regulations for costing, profit distribution, depreciation, and other matters. Ironically, these UASs produced inconsistent practices, although they were labeled uniform systems. This happened because different systems were developed for accounting entities in different sectors or industries, with different ownership, and with varying budgetary status (Xiao, Young, Dyson, and Pan, 1995). These systems adopted various double-entry bookkeeping methods, different treatments for the same or similar transactions, different types of financial statement, and different formats for the same financial statement.

A second pressure was to harmonize Chinese accounting with international accounting practices. Reflecting an economy largely isolated from the rest of the world prior to the reforms begun in the late 1970s, the UASs had been isolated and used principles, concepts, and methods quite different from those widely used in market-based economies (Zhou, 1988). Consequently, as the economy became increasingly open, the UASs made it difficult for Chinese and foreign accountants and users of accounting information to communicate; they created barriers to foreign investors conducting feasibility studies and making decisions when they were intended in investing in China.

Finally, there was pressure to meet the requirements of economic reforms. The UASs incorporated no elements of a market economy. Before its economic reform and the adoption of an open policy in the late 1970s, China had been a centrally controlled economy or a planned economy modeled on the Soviet system. There was virtually neither a free market, nor nonstate-owned companies except for some collectively owned ones. Accordingly, accounting systems had been no more than a way to provide information to the government. For this purpose a nationwide hierarchical network of financial reporting was maintained through which financial statements prepared by individual companies were aggregated all the way up to the central government. A fund system was maintained to reflect the fact that the state was the sole owner of the companies (Xiao, Young, Dyson, and Pan, 1995).

Economic reforms started in the late 1970s have resulted in dramatic changes (Li, 1994), however. First, the economic role of the government has been changing from that of the manager of both the macroeconomy and microeconomy towards that of the manager of the macroeconomy only. Direct intervention by the government into economic activities of enterprises has been greatly reduced. Second, commodity, real estate, financial, labor, and technology markets have been developed, and companies have become increasingly subject to market influence. Third, many types of nonstate-owned companies have emerged; these include Sino-foreign joint ventures, foreign ventures, and especially the developing township enterprises that are privately or collectively owned. Many domestic private companies have adopted the shareholding system. According to Chao (1993), as many as 3,800 state-owned companies have been transformed into share-based corporations in which others (such as employees, external individuals and institutions) as well as the state have a stake. Finally, and perhaps most important, the ownership relationship between the government and the state-owned companies has been redefined. A set of rules regulating the properties in state-owned companies (The Ministry of Finance, 1994) for the first time explicitly announces that the state is an investor in the enterprise and is responsible for the enterprise's debts limited by the amount of its capital share and that the enterprise has its own legal status, enjoying its own property rights and bearing independent civil responsibilities. These changes have posed serious problems for accounting,

such as how to account for the capital structure, what information is relevant to investment decisions with a market orientation, and who should decide on accounting polices. Clearly the UASs could not answer these questions. The ASBE has thus been developed to reorient the role of accounting in economic activities.

Three features of the Chinese approach to accounting standard-setting can be identified from this description: (1) accounting standard-setting is entirely in the hands of the government; (2) accounting standard-setting began through the development of a conceptual framework; and (3) the ASBE is a mixture of accounting standards and a conceptual framework. This article focuses on the first two characteristics. The issues related to the third one were discussed by Xiao, Young, Dyson and Pan (1995).

THE RATIONALE FOR THE ADOPTION OF A CF-BASED APPROACH

Traditionally, accounting standards in the Anglo-Saxon world have been developed using a piecemeal or case-by-case approach. Various other approaches to setting accounting standards have been proposed, however. Rappaport (1977) identifies three approaches. The first is the CF-based approach; here a CF is expected to provide justification for existing standards and some guidelines for the development of future standards. A well-grounded CF organizes and integrates knowledge into a systematic whole and enables efficient communication among researchers and practitioners. With the growing recognition that each accounting method involves potential wealth redistribution, however, the acceptance of standards will most likely be governed in part by anticipated economic consequences rather than by the logical appeal of a chosen framework. There is a danger that such an approach may cause those affected by accounting standards to see the standard setters as being unresponsive to their concerns.

A second approach is the economic consequences consideration, that is, the incorporation of the economic impact of accounting standards into the process of setting accounting standards. This approach may overcome the problem of the CF-based approach just mentioned. The formal consideration of economic consequences, however, may give the government an incentive to take accounting standard-setting away from a private sector organization. A third approach is a combination of these two which Rappaport sees as a better approach.

Dopuch and Sunder (1980, p. 115) suggest a political approach to the development of accounting standards as an alternative to the CF-based approach: "If a more representative body were to take over the function of setting accounting standards, perhaps there would be less of a need for a conceptual framework." Note that Dopuch and Sunder do not totally exclude the need for a CF even if a political approach is adopted.

Peasnell (1982) contrasts two approaches to accounting standard-setting: a normative approach and an evolutionary approach. The former tends to use a CF in a strict deductive manner with the standards derived logically from the CF. For that purpose, the CF should be prescriptive. By contrast, the other approach treats a CF as a means of providing objectives and criteria to be used as tools in developing standards in a way analogous to common law. Noticeably, a common feature of these two approaches is that both use a CF.

It seems appropriate to categorize these approaches into two groups: that in which a CF has a role to play, and that in which a CF is not absolutely necessary, although different approaches may be combined in various ways. The previous section shows that the Chinese

approach falls into the first category of accounting standard-setting approach which uses a CF. The Chinese accounting standard-setting began with the formulation of a CF (the ASBE). The ASBE is not only a part of accounting standards, but also is the basis for developing further specific standards although, as will be shown later, this may not be a perfect base. This is in sharp contrast to accounting standard-setting practices elsewhere. Accounting standards in other countries and those developed by the IASC existed long before an explicit CF was promulgated.[2] It may well be appropriate to say that the non-Chinese CFs have been developed from existing accounting standards or on the basis of the experiences of past accounting standard-setting, although these CFs may now be used to develop new accounting standards and revise or amend existing ones. This implies that the relationship between the development of a CF and the setting of accounting standards is not asymmetrical. The implications of this symmetrical property will be discussed later.

Why has China adopted an approach that uses a CF? In answering this question, it should be remembered that, at the outset, two different approaches were considered. One was to develop specific standards first and then a CF, an approach commonly adopted elsewhere. This was proposed by the Accounting Standards and Theory Research Group of the Chinese Accounting Society, an academic organization similar to the British Accounting Association (BAA) and the American Accounting Association (AAA). The main rationale for this proposal was that a CF-based approach would cause endless debates and arguments regarding the CF, which would result in a longer accounting standard-setting process than when adopting a non-CF-based approach (Ge, 1995). The other approach, suggested by the Accounting Standards Research Group of the AAB, was to develop a set of basic standards first, and then to set specific standards. This approach was approved by the Ministry of Finance and is currently being adopted.

According to Ge (1995), this latter approach was pursued for three major reasons. First, several CFs have already been used elsewhere. These CFs and the experiences of formulating them can be borrowed and adapted to the Chinese environment. Second, the problems of the UASs were not caused by their form, but by the fact that their basic principles, concepts, methods, and procedures were inconsistent with internationally accepted accounting practices, and with each other, thus producing incomparable accounting information. The most difficult task therefore was to obtain a set of basic principles and concepts that would be similar to those prevailing elsewhere and that could be used to solve the problem of inconsistency among the UASs. Third, those UASs adopted in the traditional planned economy are no longer appropriate in the current market-oriented economy. It is impossible to set all the specific standards overnight, however. Therefore, the UASs may have to be used for some time before specific accounting standards become available. The CF could then be used to modify these UASs, providing a temporary, however imperfect, solution.

While concurring on Ge's point regarding the existence of foreign CFs, Yan and Xu (1995), suggest two different reasons for adopting a CF-based approach. The first is that there had been a sound theoretical basis for setting accounting standards in China as a result of the efforts of several generations. The other is that Chinese had some 40 years' accounting experience and had developed "accounting management systems" that were suitable to the Chinese environment. These made it *possible* for the Chinese standard setters to develop a CF before setting specific standards. They offer no details, however, as to how the Chinese theoretical basis and experiences are relevant to the formulation of a CF.

Other reasons for pursuing the Chinese course may be offered. Just as shown in the previous section, economic reforms created an urgency for overhauling the old accounting systems. The traditional piecemeal approach to accounting standard-setting could not meet this requirement, especially in China, because accounting theory and practice were so different from those required by a market-oriented economy. Second, the key measure of the success of a standard is its acceptance. An important requisite for gaining acceptance is a language common to all parties involved. An agreed upon set of concepts and principles provides this language. Third, accounting education and training were largely constrained by and oriented toward the requirements of the planned economic system and of UAS-based accounting practice. Before new accounting standards are to be implemented, accounting education and training must be reoriented. This requires a different textbook(s). A CF provides such a textbook or a basis on which texts can be developed.

These reasons indicate that a CF can play an important role in accounting standard-setting in many ways. More significantly, they suggest that the Chinese accounting standard setters have seen a CF vital in accounting standard-setting in a period of transforming a planned economy to a market-oriented economy.[3]

This CF-based Chinese approach has a number of potential benefits (Solomons, 1986). First, the specific accounting standards developed on the basis of the ASBE may be more consistent than those developed without a CF. It is more likely that accounting principles, concepts, and methods are used in an ad hoc manner in developing accounting standards in the absence of a CF, which causes inconsistencies among standards and gives rise to confusion. Second, the ASBE should improve communication among standard setters and information preparers and users and thus enhance the acceptance of accounting standards. Third, just as in the case with the FASB's Statements of Financial Accounting Concepts (SFACs), the ASBE will economize on the effort needed to develop accounting standards. Those common elements of many accounting problems will not have to be discussed and argued again in developing each specific accounting standard once they have been defined in the ASBE. This should not, however, exclude the possibility that these elements need to be redefined as required by new developments in accounting theory and practice. Moreover, the ASBE provides a framework within which fruitful debate can take place about accounting standards. Further, the use of the ASBE may level some criticism of accounting standards (such as that of the lack of consistency and a coherent conceptual base) and thus enhance users' confidence in accounting standards and financial reporting (FASB, 1976, as cited in Dopuch and Sunder, 1980) and encourage a professional attitude in the face of conflict of interest (Peasnell, 1982).

Whether these potential benefits will be realized depends very much, however, on a number of things, including the degree to which the ASBE is complete, coherent, logically robust, and theoretically advanced and the extent to which the ASBE is and will be accepted. It is here that the risks of the CF-based Chinese approach lie. If the ASBE is seriously incomplete, structurally inconsistent, logically conflicting, and theoretically ill-developed, and if the ASBE does not become accepted commonly, then the potential discussed earlier may not be realized. It should be recognized that a CF-based approach adopted in China involves an additional risk. Because China was a planned and centrally controlled economy until recently, the accounting standard setters have not experienced the accounting problems typically encountered in a market economy. Although an interna-

tional advisory group has been in operation, this lack of experience may still result in a poor-quality CF which turns out to be the case as will be shown in latter sections.

In addition, there is the risk of allowing accounting decisions to be based on definitions or abstract principles (Gerboth, 1987). Although the ASBE may provide some consistency, this consistency may be with abstract rather than with actual results. In other words, the use of a CF may prevent more appropriate accounting methods and procedures from being adopted and may prohibit people from finding out and meeting the true requirements of information users.

WHY THE GOVERNMENT NEEDS A CONCEPTUAL FRAMEWORK

The preceding section explains the possibility and necessity of formulating a CF before specific standards are developed. Why the Ministry of Finance needs a CF has not been answered satisfactorily, however. This question is dealt with here.

According to existing theories, China seems to be the last country that would adopt a CF-based approach given the fact that the government entirely controls accounting standard-setting.

In proposing a political approach to accounting standard-setting, Dopuch and Sunder (1980, p. 115) hypothesize that "the demand to develop a conceptual framework may be inversely related to the power of enforcement which the standard-setting agency can command." They support their hypothesis by citing the Securities and Exchange Commission (SEC) which did not need a CF in issuing and implementing its accounting series releases.[4]

Peasnell (1982, p. 251), on the other hand, argues that the importance of a CF is related to the power and responsibilities of standards setters: "whether or not a CF has anything major to contribute to corporate financial disclosure in general, and to accounting standard-setting in particular, depends on the ways in which financial reporting is organized." To demonstrate this, he identifies three alternative institutional arrangements. The first is laissez-faire which has no legal disclosure requirements at all or has statutory requirements for disclosure by clearly defined recipients but the information provisions are a condition for granting limited liability status. The second way of institutional arrangement is state control with the government totally regulating corporate financial reporting. The last arrangement involves delegating accounting standard setting to the accounting profession in one of three forms: (1) the regulatory body delegates the responsibility to the accounting profession while retaining power (illustrated by the relationship between the SEC and the FASB); (2) the power is in the hands of the accounting profession with the responsibility controlled by a government agency; and (3) both power and responsibility reside in the profession as exemplified by the Canadian Institute of Chartered Accountants (CICA). Peasnell concludes that only when both the power and the responsibility are in the hands of an accounting professional body, as is the case with the CICA, does a CF play an obvious role. A CF is of little use in any other types of institutional arrangement. One implication of this conclusion is that the CICA's CF plays a more important role in Canadian accounting standard-setting than, say, the role of the FASB's CF in U.S. accounting standard development. This conclusion has not acquired any empirical support so far, however.

The past Chinese experience seemed to support Dopuch and Sunder's hypothesis and Peasnell's conclusion that a CF is of little importance when the government totally con-

trols corporate financial reporting. There had been no agreed upon CF in China until the ASBE became available in 1992. The Ministry of Finance (through its AAB) was in charge of accounting affairs. Most of the UASs were developed and issued by the Ministry of Finance, some jointly with other ministries.[5]

The current accounting standard-setting practice in China does not, however, support either Dopuch and Sunder's hypothesis or Peasnell's conclusion. Although the market-oriented economic reforms begun in the late 1970s have created an urgent need for new accounting theory and standards, accounting standard-setting still resides with the government. The power of the Ministry of Finance was strengthened by the Accounting Law 1985 (The People's Congress, 1985) and was reaffirmed in the revised Accounting Law 1993: "The finance section of the State Council manages the national accounting affairs. The finance sections of local governments manage local accounting affairs." (The People's Congress, 1993, p. 1) The retention of power by the government is largely due to the fact that most of the companies are still solely or largely state-owned.[6] This institutional arrangement is also consistent with one of the three principles for setting accounting standards mentioned in the first section.

Some may argue that the responsibility for accounting standard-setting could be delegated to the accounting profession while the Ministry of Finance retains power; however, this has not been possible. The main reason may be that the accounting profession is too young and too weak and has had little experience in self-organization and self-regulation. China has a number of national non-governmental accounting bodies and numerous local organizations. The main national accounting bodies include the Chinese Accounting Society, the Chinese Auditing Society, and the Chinese Institute of Certified Public Accountants (CICPA). The first two are academic organizations. In the Chinese political tradition, it is unlikely that they will be given either the power or the responsibility necessary for accounting standard-setting. The CICPA is about 10 years old; its members represent only a tiny fraction of the accountants in China. Thus, it has not been in a position to be given either the power or the responsibility even if the government were willing to do so.

In effect, the Ministry of Finance has both the regulatory power and the responsibility, yet it has based its accounting standard-setting program on a conceptual framework. Thus, to the extent that the ASBE plays a role, the institutional arrangement in Chinese accounting standard-setting seems to contradict both Dopuch and Sunder's hypothesis and Peasnell's argument.

Two basic approaches to accounting standard-setting or regulation have been used even in the developed market economies. The first is the Anglo/Saxon approach that involves the development of CFs and is more oriented toward the accounting profession. The other is the German/Japanese/French approach that does not involve a CF and is more government-oriented. It would seem to be natural for the Ministry of Finance to follow the latter approach because the Chinese institutional approach is closer to those in Germany, Japan, and France. However, that the Ministry of Finance intended to model Chinese standards on those promulgated by the IASC following the Anglo/Saxon approach. International accounting standards (IAS) are chosen because they are less context dependent than those developed in any individual country, and are thought to be easier to adapt. The choice might also have been made because IAS have already gained some acceptance by other

countries and if the Chinese accounting standards were in line with the IAS it might be easier for the Chinese standards to gain international acceptance.

The choice of the Anglo/Saxon CF-based approach was perhaps influenced by the problems of the old approach to accounting regulation in China that was adopted to develop UASs. The main problems were that it was largely geared to the needs of macroeconomic management; it tended to leave too much to be governed by fiscal and other state regulations; it had little theoretical underpinning; and it was ad hoc. On the one hand, given the spectacular failure of the planned economy, the first two problems might have prevented the Ministry of Finance from adopting the German/Japanese/French approach which bears more or less these two characteristics (they may not necessarily be problems in these countries). On the other hand, an attempt to avoid the last two problems makes a CF-based approach more attractive.

Moreover, because the Ministry of Finance intended to model the standards promulgated by the IASC, it is reasonable to assume that the Ministry knew that the IASC and standard setters elsewhere (such as those in the United Kingdom and United States) have had problems with their ad-hoc approaches to accounting standard-setting and that CFs had been or were being developed to solve those problems.

Further, although the Ministry of Finance had been in charge of accounting regulations and although it has the power of enforcement, it had had no experience in setting accounting standards that would be suitable in a market-oriented economy. The Ministry of Finance must have believed that it would need a guideline for accounting standards setting.

Finally, although the development of CFs has been motivated by internal competition between different accounting professional bodies or by a fear of government intervention in other countries, this was not true in China as was shown earlier. The whole Chinese accounting reform program should be seen as being partly the result of the country's open policy. As discussed earlier, the development of accounting standards was intended to narrow the gap between the Chinese accounting practice and that in other countries. Therefore, the adoption of a CF-based approach might have been expected to boost the creditability of accounting standards and, thus, enable them to gain more acceptance internationally.

There has been much concern about the possibility that government may take over accounting standard-setting from nongovernmental agencies in the United Kingdom and United States (Dopuch and Sunder, 1980; Peasnell, 1982; Solomons, 1986). Indeed, the CFs developed in those countries have been seen as a device to defend or protect those private organizations (the FASB in the United States and the ASB in the United Kingdom) (Dopuch and Sunder, 1980; Peasnell, 1982). Although it may have been unexpected that a Chinese government agency created a CF-based accounting standard-setting program, this Chinese institutional arrangement may prove to be an advantage, at least during the transitional period. That is, the presence and, the central role of, the government in accounting standard-setting have enhanced or will enhance the acceptance of accounting standards, including the ASBE. This way to achieve acceptance may be criticized by those who dislike government interventions or politicization of accounting standard-setting, but it may be justified by the urgency of the changeover from the UASs to accounting standards. To the extent that efficiency and effectiveness can be used as criteria for evaluating accounting standard-setting, any institutional arrangement should be made such that accounting standards are easily accepted and implemented. Had the accounting standard-setting program been left to a private organization that lacked sufficient power, the process of

implementing the Chinese accounting standard-setting program would have been prolonged. Given that the Chinese accounting professional bodies were so young and inexperienced, if the accounting standard-setting had been put in their hands, a CF might never have been accepted, nor would a CF-based approach would have been viable.

Of course, problems with this government-controlled accounting standard-setting approach do exist. A major problem is the fact that the government tends to allow fiscal and other government regulations to affect many accounting issues. The balance between legal form and economic substance therefore will be biased toward the former. If it has a short time horizon and is under political pressure, the government may change these regulations frequently, which will undermine the credibility of accounting information. It would thus be interesting to see whether this will be the case in China. At present, some contradictory signs have emerged. On the one hand, the ASBE and drafts of specific standards developed on the basis of the ASBE leave some issues to be determined by other state regulations (such as whether fixed assets should be revalued, and which unit value is to be used as a criterion for the recognition of fixed assets). On the other hand, one of the original major principles of the UASs, conformity to legal requirements (fiscal and other regulations), was removed from the ASBE (Xiao, Young, Dyson, and Pan, 1995).

THE ASBE AS A BASE FOR ACCOUNTING STANDARD-SETTING

It was suggested earlier that a CF may be used for different purposes or may play different roles, for example, (1) as a basis on which accounting standards are deductively derived (the normative approach); (2) as a statement of a standard-setting program or a statement of the abandonment of the old accounting systems as in the Chinese case; (3) as a part of accounting standards as in the Chinese case; (4) as a tool or a frame of reference for developing accounting standards (the evolutionary approach); and (5) as a manual for revising or maintaining existing standards as the existing CFs are used by the IASC, the FASB, and the ASB. These uses may also be combined.

Which role a CF may play depends on, among others, the nature of the CF in consideration. According to Miller (1985), it is possible to develop three different types of CF: (1) a descriptive CF, which describes or codifies current practice; (2) a prescriptive CF, which provides guidance on what *should* be; and (3) a constitutive CF, which defines key terms and fundamental issues, and establishes basic principles that *should* be followed. Perhaps it is difficult to find a CF that belongs exclusively to one of these three types. Existing CFs tend to be a mixture since some part of them may be more prescriptive while other parts may be more descriptive. For example, the FASB's SFAC No. 2 about qualitative characteristics is more prescriptive while its SFAC No. 5 about recognition and measurement is more descriptive (Solomons, 1986).

For the purpose of guiding the development of new accounting standards, it is desirable for a conceptual framework to be prescriptive rather than descriptive. If the purpose is to standardize or harmonize accounting theory and practice, however, a CF perhaps needs to be descriptive as well as prescriptive. If the objective is to enable a transformation (especially a radical transformation) of accounting systems, a constitutive CF is required. To the extent that the ASBE is largely drawn from existing accounting theory and practice

abroad, it can be seen as descriptive. On the other hand, since what the ASBE describes is largely new in China, as compared with the UASs, the ASBE may be seen as a prescriptive CF. In addition, the ASBE can be seen as a constitution in the sense that in many aspects it only outlines some basic terms and principles but does not explain them indepth and it has the force of law.

The ASBE is intended to achieve three objectives: (1) to meet the needs of developing a socialist market economy; (2) to standardize accounting practice; and (3) to ensure the quality of accounting information (Ministry of Finance, 1992a). In addition, the Chinese standard setters see it as providing basic standards designed to guide the setting of further standards. For this purpose, the ASBE is intended to be renamed as ASBE No. 1 - Basic Standards (AAB, 1994). From the objectives of the ASBE described here and the motives behind the Chinese accounting standard-setting program which were outlined earlier, the ASBE clearly is expected to (1) facilitate the transformation of the UASs to accounting standards that meet the requirements of a market economy; (2) standardize or harmonize accounting practice at home and abroad; and (3) guide accounting standard-setting. Of course, these are closely interrelated. The issue is the extent to which the ASBE can meet them.

Compared with the UASs, the ASBE has introduced many fundamental changes, including the adoption of many internationally accepted accounting principles, concepts, qualitative characteristics, and elements of financial statements while abandoning some of those used in the UASs. As shown in Appendix 1, the general areas that the ASBE covers are similar to those of other frameworks. The ASBE is less complete than other existing frameworks, however, because it avoids or neglects more fundamental issues or fails to elaborate on equally important topics. Consequently, the ASBE may not be able to provide prescriptive references for setting accounting standards or for financial information providers and users in related areas.

First, the ASBE does not specify the users of financial reports other than the government and corporate managers, and it does not acknowledge differences in the information needs of various user groups. Second, it does not explicitly recognize the importance of relevance as a qualitative characteristic, and it pays no attention to freedom from error as a major dimension of reliable information. It also fails to identify cost as a major constraint in producing useful information and achieving the objectives of financial accounting and reporting. Next, it fails to provide a frame of reference as to how to use the qualitative characteristics in preparing and using financial reports because it does not properly weigh the characteristics, largely ignoring the conflicts between some qualitative characteristics, as well as not operationalizing them. Further, it has not discussed the concept of capital maintenance and does not explicitly acknowledge the use of a particular one. Therefore, no concept of capital maintenance can be adhered to in developing additional standards. Moreover, it does not deal with the problem of asset and liability recognition and does not provide criteria other than the overly simple definitions for this purpose. In addition, it fails to discuss some important attributes of the elements of financial statements. For example, it does not define assets as rights to future economic benefits, nor does it consider assets to be generated from past transactions or events.[7] Consequently, the definitions of the elements of the financial statements may be too loose to provide further guidance.

Another weakness of the ASBE is that it is not sufficiently forward looking. For example, it does not recognize the possibility that shareholders and creditors may become main

user groups in a market economy, and it therefore lacks necessary discussions of their information needs. This problem seems to have arisen from the economic situation and political climate during the period of the ASBE's preparation: the number of shareholders and creditors was relatively small and the adoption of the shareholding system had experienced some ups and downs because of the changes in political climate. The number of shareholders and creditors have been increasing, however, with a clearer trend toward a market-oriented economy since 1990. As another example, although the economic reform has reduced and will further reduce the direct intervention into business affairs by the government, meeting the government's information needs is still considered to be perhaps the most important objective of financial accounting and reporting. By meeting theses needs, the ASBE has kept a tradition of the UASs. The failure of the planned economic system lends no credit, however, to this tradition of the UASs. This objective seems to deserve further investigation. Alternative approaches to meeting the information needs of the government should be studied. Also, to retaining the government as a primary user may hinder the development of a market economy in the long run because of the government's potential intervention into market activities.

A further weakness of the ASBE is that it may have put some (perhaps unnecessary) constraints on developing further standards. The ASBE exclusively adopts the historical cost accounting system. By ignoring price changes and excluding alternative measurement systems from consideration, it provides little room for developing an accounting standard for changing prices.

This analysis partly echoes the view of Yan and Xu (1995). They identify three problems regarding the ASBE. First, it is theoretically shallow. Second, it has a narrow scope, focusing mainly on elements of financial statements and financial statements preparation while lacking sufficient discussion of some special accounting issues. Finally, it is not derived from Chinese accounting practice but has drawn on foreign accounting practice and theory. It is uncertain whether it is applicable in the Chinese environment because the foreign theories that are used need further empirical tests.

Although some of these problems of the ASBE exist in other CFs, it seems that the ASBE is less complete and sophisticated. This incomplete CF may be a poor basis for developing further standards. It can be expected that setting specific accounting standards will need to refer to alternative sources in those areas that the ASBE has not touched on or has not addressed sufficiently. In some aspects, the development of further standards will have to go beyond the ASBE, such as developing standards for price changes because inflation has been high and persistent. Moreover, it can be expected that the ASBE may have to be modified on the basis of, and adjusted to, specific accounting standards. However, the ASBE, which may not be as sophisticated as others, may be more easily accepted and implemented in a country where accounting practice and education have traditionally been different significantly from what the ASBE prescribes. It may have smoothed and eased the standardization and harmonization process. Moreover, such a partial framework may be justified at a time when the old accounting systems have to be abandoned as quickly as possible. It may be preferable to start a new system that will require future modification rather than to retain the totally outdated one while waiting for a perfect solution.

SPECIFIC ACCOUNTING STANDARDS ISSUED ON THE BASIS OF THE ASBE

Because the specific standards issued so far are still in the form of exposure drafts and many other standards are being developed, it may be too soon to evaluate them properly. At the risk of being incomplete, however, this section outlines some of the features that have appeared in the issued exposure drafts.

A feature to note is that some of the standards, such as those standards on accounts receivable, accounts payable, owners' equity, the balance sheet, and the income statement, may not exist in other countries.[8] The reasons stated by the standard setters for setting these standards include: (1) the standards will help enterprises deal with accounting treatments; (2) payables and receivables, and owners' equity are important elements of financial statements; and (3) because balance sheets and income statements are main financial statements, a set of standards will help standardize external reporting (AAB, 1995). The need for these standards also can be explained according to the following two elements. First, the abandonment of the UASs may have created a vacuum, and thus accounting information providers need some rules to adhere to. Without these standards, many confusion may arise. Second, given that accounting theory and practice were once different and the application of new accounting theory and practice requires comprehensive training and education for accountants and users of accounting information, these standards provide an authoritative textbook.

As predicted in the previous section, a second feature of the issued specific standards is that they have gone beyond the ASBE although the ASBE is a major source of reference.[9] Although the ASBE does not prescribe criteria for the recognition of assets and liabilities, specific standards issued refer to CFs or standards of the IASC or others for help. For example, following the IASC's CF, to recognize a fixed asset two criteria must be met: (1) future economic benefits arising from the use of the asset will flow into the enterprise; and (2) the cost of acquiring the asset can be reliably measured (AAB, 1995, p. 4). Similarly, the recognition of intangible assets is required to meet two criteria not prescribed in the ASBE. The first is that the intangible asset's role in producing economic benefits and its ability to play this role are verifiable; the second is that the cost of acquiring the asset can be reliably measured (AAB, 1995, p. 23). Other examples can also be offered. The explanatory notes on the standards about accounts receivable clearly state that "both the ASBE and the current industry-specific accounting systems involve accounts receivable. The document [*Standard on Accounts Receivable*] has fully considered their requirements, but is not confined to these requirements" (AAB, 1995, p. 135). In effect, specific standards are set for some transactions such as receivable commercial bills that are not defined in the ASBE.

An additional feature of the specific standards issued is that some definitions are inconsistent with those given in ASBE. The definition of fixed assets exemplifies this. The ASBE defines fixed assets as "the assets whose useful life is over one year, unit value is above the prescribed criteria and where original physical form remains during the process of utilisation, including building and structures, machinery and equipment, transportation equipment, tools and implements, etc." (The Ministry of Finance, 1992a). However, the standard on fixed assets redefines fixed assets as "assets that have a physical form, whose useful life is over one year, and that are used to produce commodity or provide services, are leased to others, or are used for administration purposes" (AAB, 1995). A main differ-

ence between these two definitions is that the criterion for the recognition of fixed assets in the former, "unit value is above the prescribed criteria," does not appear in the latter. Three reasons are given in the explanatory notes to the fixed assets standard (AAB, 1995). First, value criteria are too subjective a matter and should be left to enterprises. Second, neither international accounting standards nor any other country's accounting standards set specific value criteria. Finally, taxation rules will provide specific value criteria. A difference also exists between the definition of intangible assets in the ASBE and that in the standards on intangible assets. The former recognizes two attributes of intangible assets (i.e. long-term assets and without physical form). In contrast, the latter, derived from the IASC's draft standards and the ASB's discussion paper on goodwill and intangibles, contains four attributes: (1) useful life of more than one year; (2) intangible status; (3) not-for-sale status; and (4) non-monetary status. Other examples can also be found, but in those cases, the differences are mainly in wording.

Further, some methods used in the specific standards are different from those prescribed in the ASBE. As an example, the ASBE requires the amortization of all intangible assets evenly over the period during which the assets result in benefits. However, the standard on intangible assets provides alternative treatments. Some intangibles can be amortized over the shorter of the beneficial period and legally valid period. Others should be amortized over the valid period or the beneficial period specified in the contract. If no legal requirement or contract specification is available, the amortization period is 10 years. This difference indicates the inflexibility of the ASBE. As another example, the ASBE does not consider price changes and therefore does not require the revaluation of fixed assets, but the standard on fixed assets provides rules for the revaluation of assets although no mention is made of the circumstances under which a revaluation is necessary or of whose responsibility revaluation is. This example shows that the ASBE has put some unnecessary constraints on developing specific standards.

In addition, there are inconsistencies among the specific standards. One aspect of this inconsistency is that the standards on the elements of financial statements, which are of similar nature, are not derived from the same sources of references. Consequently, for example, the two general criteria for the recognition of assets are not explicitly used in the standards on inventories and investments although they are used in the standards on fixed assets and intangible assets. Lou and Chen (1995) identify three other types of inconsistency: (1) inconsistent terms; (2) incompatible definitions; and (3) inconsistent methods adopted. Some of these differences occurred because these specific standards were drafted by different task forces. It seems desirable that a cross check be made before any standard is issued.

CONCLUSIONS

This paper has provided a description of the current Chinese accounting standard-setting program, examined the potential advantages and disadvantages of the Chinese approach and the rationale for adopting such an approach, and investigated the strengths and weaknesses of the ASBE as a CF and the features of the specific accounting standards issued thus far. The analyses and discussions have highlighted a number of points.

First, the relationship between a CF and accounting standards setting is symmetrical. A CF may be built on accounting standards, which in turn may be (and perhaps are better)

developed on the basis of a CF. The formulation of the CF and the development of standards will benefit each other. Because it is not possible to develop either a perfect CF or a set of faultless accounting standards in one attempt, it can be expected that the CF and standards will be revised and amended from time to time. This also means that accounting standard-setting is evolutionary in practice, although some criticize the evolutionary approach.[10] However, the recognition of this symmetrical relationship between a CF and standards may make the evolutionary approach more understandable and more tolerable.

Second, given the problems with the ASBE and the inconsistencies that exist between it and the specific accounting standards issued so far, it can be expected that the ASBE will have to be amended and adjusted on the basis of these specific standards if it continues to be a part of accounting standards. Thus, although it is CF-based, the Chinese approach must be evolutionary.

Third, the adoption of a CF-based approach by the Chinese accounting standard setters was determined or affected by a number of factors. The main one seems to be the urgent need for an overhaul of the uniform accounting systems. Also important is the availability of CFs and accounting standards elsewhere that can be borrowed and the experiences of developing them that can be learned.

Further, a CF may play an important role in accounting standard-setting even when both the power and the responsibility regarding accounting standard-setting are in the hands of the government. Contradictory to both Dopuch and Sunder's (1980) and Peasnell's (1982) theories, it can be argued that the presence and the central role of the Ministry of Finance have enhanced the role of the ASBE in the Chinese case. The problem of the old approach to accounting regulations adopted by the Ministry of Finance is one of the main reasons that the ministry opted for a CF. Its use of a CF was also attributable to the fact that the ministry had had no experience in setting standards in a market economy and to the fact that the standard-setting program has been a means of implementing the country's open policy and, thus, a CF would enhance the creditability of its accounting standards.

Finally, a CF may be used to fulfil different purposes depending on the orientation of the CF in use. A more prescriptive CF is desirable for setting new standards, a descriptive CF may help standardize or harmonize existing accounting practice and enhance awareness of existing practice by relevant parties, and a constitutive CF is needed for the transformation of uniform accounting systems to accounting standards required by a market-oriented economy. It seems that the ASBE has played or is playing an important role in the last two aspects. In contrast, although an important reference, it is far from being sufficient for prescribing specific standards, and therefore some specific standards are derived from sources other than the ASBE.

APPENDIX 1: AN OUTLINE OF THE ASBE

Objectives of the ASBE

Three objectives are to (1) meet the needs of developing a socialist market economy; (2) standardize accounting practice; and (3) ensure the quality of accounting information. Note that the ASBE is also designed to guide the setting of additional standards according

to the AAB's standard-setting plan which consists of developing the ASBE as basic standards and then setting specific ones (The Ministry of Finance, 1992b). This two-stage plan was explicitly stated again in a recent statement of the aims, contents, organization and procedures of specific standards setting (AAB, 1994). The statement also intends to rename the ASBE as "ASBE No. 1 - Basic Standards." The ASBE obviously includes many (perhaps not all) ingredients of a conceptual framework, but the Chinese standards setters seem to prefer "basic standards" to "conceptual framework."

Users and Objectives of Financial Accounting and Reporting

The ASBE does not discuss users and objectives in detail. A short paragraph states that financial accounting and reporting (1) should meet the information requirements for macroeconomic management; (2) should allow relevant parties to assess the financial position and operating results of the business; and (3) should meet the information needs of business management. It is interesting that the information needs of macroeconomic management is placed on top of the list. Equally noticeable is that the "relevant parties" are not specified.

Postulates, Principles, and Qualitative Characteristics

Four internationally recognized accounting assumptions are adopted: accounting entity, going concern, accounting period, and monetary measurement. The principles proposed include accruals, matching, prudence, distinction between revenue expenditure and capital expenditure, and historical cost. Objectivity or truthfulness, comparability, consistency, timeliness, understandability, completeness, and materiality are stated as qualitative characteristics. Note that relevance is not explicitly stated as a principle in the list and can only be inferred from a statement of the objectives of financial accounting and reporting as described.

Elements of Financial Statements

As the titles of the ASBE chapters show, assets, liabilities, equities, revenues, expenses, and profits are selected as the elements of financial statements. These elements are defined as follows. *Assets* are economic resources, including all property, rights to debts, and other rights, that are owned or controlled by a business and are capable of monetary measurement. *Liabilities* are obligations borne by the business that can be measured in monetary terms and can be discharged by assets or services. *Equities* are the ownership rights of investors to the net assets of the business, including capital invested in the enterprise, capital reserve, surplus reserve, and undistributed profits. *Revenues* are realized operating inflows from selling goods or providing services, including basic operating revenue and other operating revenue. *Expenses* are various consumables incurred in the process of production and operation. *Profits* are operating results during a certain period, including operating profit, net investment income, and net non-operating income. Chapters 3 to 8 provide a detailed classification of the subelements of financial statements.

Recognition

The ASBE provides only criteria for revenue and expense recognition. Revenue is recognized when it is realized. Specifically, the business should recognize revenue when it has delivered an item of goods or service and in the meantime has received cash or evidence for claiming the cash. On long-term construction contracts, however, revenue should be recognized using the percentage-of-completion method or the completed contract method. Expenses are recognized by applying the matching principle.

Measurement

Historical cost is the only measurement system considered appropriate in the ASBE. Alternative measurement systems are not discussed. As to the possible effect of price changes, the ASBE rules out any attempt to adjust the book values of assets unless other state regulations allow it.

Chapters 3 to 8 provide rules on some specific measurement issues. For inventory valuation, permitted methods include FIFO, LIFO, weighted average cost, and specific identification. Accelerated depreciation can be used in addition to the straight-line method if other regulations allow. Investments in other companies should be accounted for using the cost method or the equity method, depending on the specific situation. Other areas for which rules are available include leasing, deferred assets, and intangible assets.

Financial Statements

The enterprise must prepare a balance sheet, an income statement, a statement of changes in financial position (or a cash-flow statement), in addition to supplementary schedules, notes to the statements, and an explanatory statement on the financial condition. If the enterprise owns more than half the capital of another company or actually owns the right of control over the company, it must prepare consolidated statements.

NOTES

1. For further details of the organization and procedures of developing specific accounting standards, see AAB (1994).
2. Many attempts at developing a conceptual framework were made before the 1970s, although they were not "recognized" by standard setters (Solomons, 1986; Gore, 1992).
3. It is interesting to note that accounting standard setters in the other transitional economies such as Poland and Hungary have not adopted a CF-based approach. It remains to be evaluated whether the Chinese approach is more efficient and effective than the ones adopted in those countries.
4. To some extent, the UK experience seems to contradict the hypothesis of Dopuch and Sunder. The Accounting Standards Committee (ASC) had no power of enforcement, and nor CF for some 20 years. The Accounting Standards Board (ASB) has much more power of enforcement, and it has developed a CF. However, this hypothesis seems to have gained support from the fact that there are no explicit CFs in countries such as Japan, France, and Germany where the governments have been the standard setters.

5. Each of the other ministries also has an AAB, but these AABs were responsible only for accounting affairs in accounting entities subordinated to them. Apart from developing and maintaining UASs in collaboration with the AAB in the Ministry of Finance, an important function of these AABs was to aggregate accounting information provided by the subordinating accounting entities.
6. As more and more private companies are emerging and more and more state-owned companies have been or are being transformed into shareholding ones owned jointly by the state, individuals, and other institutions, it is interesting to speculate whether this institutional arrangement will be changed.
7. *Assets* are defined in the ASBE as economic resources, including all property, rights to debts, and other rights, which are owned or controlled by an enterprise and are capable of monetary measurement.
8. It should be noted that equivalent rules or regulations on some of these aspects may exist in these countries. For example, there are detailed rules on the balance sheet and the profit and loss account in the Companies Act 1985 in the United Kingdom. Similar rules also exist in all the other EU countries, Australia, and Japan.
9. Other sources include CFs and accounting standards of the IASC's and in the United Kingdom, the United States, Japan, Germany, Hong Kong, Taiwan, and so on.
10. For example, in evaluating the FASB's *SFAC No. 5*, Solomons (1986, p. 122) argues that: "the conceptual framework was supposed to guide the Board in the future formulation of standards. But this concepts statement stands that process on its head. In several places it asserts that concepts are to be developed as the standard-setting process evolves. But if all that is needed to improve our accounting model is reliance on evolution and the natural selection that results from the development of standards, why was an expensive and protracted conceptual framework project necessary in the first place?"

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Accuracy of Forecast Information Disclosed in the IPO Prospectuses of Hong Kong Companies

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Key Words: Forecast accuracy; IPO forecasts; Reliability of IPO information; Hong Kong companies' forecasts; Determinants of forecast accuracy

Abstract: *Hong Kong and international investors are interested in the accuracy of forecasts disclosed in the Initial Public Offering (IPO) prospectuses issued by Hong Kong companies. This study examined bias as well as accuracy of IPO forecasts disclosed from 1990 to 1994. The results of this study show that unlike IPO forecasts disclosed in most other countries, IPO forecasts disclosed by Hong Kong companies do not overestimate their earnings and/or dividends. Instead, the bias seems to be toward underestimation. The level of forecast accuracy is also quite high and compares favorably with that of most other countries. The results show that the level of accuracy is to some extent influenced by the number of years the company has been in business. No other company-specific variable seems to have any influence on the accuracy level. On an overall basis, the findings of this study can be interpreted to mean that IPO forecasts disclosed by Hong Kong companies provide reliable information.*

Forecasts disclosed in prospectuses for Initial Public Offerings (IPOs) provide useful information for evaluating the company's future performance and in assisting the prospective investors to decide whether to subscribe to the offered shares. Except New Zealand where disclosure is mandatory. most companies disclose forecast information in their IPOs on a voluntary basis. The United States is, however, an exception to the almost universal practice of disclosing forecast information in IPOs. Despite the usefulness of this information, US companies rarely disclose it because the Securities and Exchange Commission (SEC) does not require it.

The usefulness of forecast information for investment decisions encouraged several researchers to examine the accuracy of IPO forecasts disclosed in different countries and the role they play in pricing of the offered shares. The forecast accuracy studies have been

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conducted for IPOs issued in the United Kingdom, Australia, New Zealand, and Singapore, and the pricing aspect has been examined for IPOs issued in different countries, including the USA. Several studies have also examined the pricing aspect of Hong Kong IPOs (e.g. Dawson, 1987; McGuinness, 1992; Ng, Fung, and Tai, 1994; Chan et al., 1996), but no study has so far evaluated the accuracy of these IPO forecasts.

As a result of capital market expansion, there is a steady increase in the number of IPOs being issued by Hong Kong companies. Hong Kong investors as well as international investors need information to evaluate future performance of Hong Kong companies so that they can decide whether to subscribe for the shares offered. In the absence of any other reliable information, investors primarily depend on information disclosed in the prospectuses issued by these companies. It can be argued that investors' dependence on information contained in the prospectuses for investment could provide incentive to management to convey favorable information in the IPOs so that it could persuade or induce prospective investors to make a positive investment decision. Moreover, it would be in the best interest of managers as well as other parties associated with IPO subscriptions that the offered shares are fully subscribed at the highest possible issue price. In view of the usefulness of IPO forecasts, investors would be interested to know about the reliability of these forecasts. Findings of earlier studies in different countries have provided mixed signals on the accuracy and reliability of IPO forecasts. Forecasts disclosed by Australian and New Zealand companies have especially been found to be highly inaccurate. Moreover, findings of different studies suggest that most IPOs are optimistic, meaning that most managers over-estimate their future performance.

This study examines the accuracy of IPO forecasts disclosed by Hong Kong companies and whether these forecasts are under- or over-estimated. Additionally, it examines whether this accuracy is influenced by company-specific characteristics. The findings of this study provide useful information to investors for evaluating the reliability of IPO forecasts disclosed by Hong Kong companies.

The remainder of the paper is organized as follows: Part one provides background information on Hong Kong IPOs. Part two discusses data collection procedures and presents the research methodology. Results are discussed in part three, and part four presents the summary and conclusion.

I. DISCLOSURE OF INFORMATION IN HONG KONG IPOS

A company listing its shares with stock exchanges for the first time is required to issue a prospectus, known as Initial Public Offerings (IPO), which must contain information on the company's objectives, structure, operations and historical performance. The form and content of such prospectuses is established by the rules and regulations of stock exchanges, regulatory bodies, or Companies Acts of the respective country in which such prospectuses are issued. As a universal requirement, the listing companies are required to disclose historical financial information.

Because of the limited usefulness of historical financial information contained in the IPO prospectuses, prospective investors would be more interested in the expected future performance of the listing companies. Therefore, managers in some countries voluntarily disclose forecast information on such items as sales, profits, Earnings Per Share (EPS), and dividends, if such disclosures are not required by the regulatory bodies. Inclusion of fore-

cast information in IPOs is especially important because IPO disclosures typically represent a substantial proportion of publicly available information on the firm. Moreover, at the time of initial public offerings, security analysts' forecast information is also not available. Therefore, investors primarily rely on forecast information disclosed in the IPOs.

Similar to the disclosure requirements in other countries, Hong Kong companies are also required by the Stock Exchange regulations to disclose the following information in their IPO prospectuses[1]:

a. General nature of the company's business, its share capital, and the minimum amount of capital to be raised by the issue,
b. Financial information including a statement of gross trading income and sale turnover during the previous three years,
c. Details relating to the directors of the company, including their shares in the company, remuneration provisions in the articles of association, their interests in the promotion or property to be acquired, and payments for services in promotion and formation, and
d. An auditor's report for each of the three preceding years.

There has been no mandatory requirement for Hong Kong companies to disclose forecast information in the IPO propsectuses. An analysis of IPOs issued during the study period, however, indicated that almost all companies that issued IPOs included forecasts for profit, EPS, and dividends or for a single item or combination of any two items. The Listing Regulations of Stock Exchange of Hong Kong does require that only forecasts based on reasonable assumptions should be published[2]. In case actual results differ from forecasts, companies are required to provide explanation for such differences.[3]

II. LITERATURE REVIEW

Studies on IPOs of US companies have primarily looked into the pricing aspect of the offered shares, but none of them have examined accuracy of forecasts because IPOs of US companies rarely contain forecast information. On the other hand, New Zealand companies are required to disclose forecasts in IPOs after 1983. The forecast accuracy of New Zealand IPOs has been the focus of examination of two studies. One study examined the accuracy of IPO forecasts issued after 1983 when disclosure of such forecasts was made mandatory, and the other evaluated whether voluntary disclosure of forecasts before 1983 was influenced by the company auditor's affiliation.

In the first study, Firth and Smith (1992) examined accuracy of 89 forecasts issued from 1983 to 1986. Their findings indicated that there was a mean forecast error of -92 % for these companies, which suggested that these forecasts were overly optimistic. The mean absolute forecast error of these IPOs was 141 % indicating that the forecast errors were also extremely high. The authors also evaluated the determinants of forecast accuracy, and their results indicated that there was a positive association between forecast errors and company size, which meant that larger companies exhibited higher forecast errors. This finding was contrary to their expectation that larger companies would be associated with higher accuracy of forecasts, meaning lower forecast error. Apart from the association

with the company size, the results did not show any significant association of forecast errors with other determinants, including time horizon of forecasts, company age, company leverage, and company auditor.

The other study was basically concerned with a voluntary review of earnings forecasts disclosed before the mandatory requirement, i.e. 1983 (Mak, 1993). The results of that study, which was based on 53 IPOs issued from 1970 to 1983, indicated that there was a negative relationship between company age and voluntary review of forecasts. This finding suggested that younger companies opted for voluntary review either to provide reliability to voluntarily disclosed profit forecasts or to mitigate the criticism of potential inaccuracies in forecasts because of the company's short existence and lack of experience.

In countries other than New Zealand, forecast information is disclosed in IPOs on a voluntary basis. Voluntary disclosure countries include the UK, Australia, Singapore, and Korea. Forecast accuracy has been examined for UK, Australian and Singapore companies.

The accuracy of IPO forecasts issued by UK companies was first examined as early as 1972 (Dev and Webb, 1972). This study identified six potential determinants of profit forecast accuracy, which are: firm size, length of the forecast period, year of forecasts, industrial classification, issuing houses, and type of forecast. In 1977, Ferris and Hayes (1977) evaluated the impact of forecast determinants on the accuracy of forecasts of 279 IPOs issued from 1970 to 1973. They specifically examined whether forecast errors were associated with company size, length of the forecast period, and economic conditions. Their results did not show any significant association between forecast errors and accuracy determinants. Their results, however, provided some support for the association of forecast errors with the time horizon of forecasts and also with the company size. The results suggested that the shorter period of forecasts was associated with lower forecast accuracy. This result was counter to their expectation. They explained this result with the argument that the longer period of forecast horizon enabled management to exercise discretion in the maintenance and capital expenditure decisions, which resulted in reducing the forecast error. Their results with regard to company size indicated that the association was inverse, suggesting that large companies were associated with lower forecast accuracy.

Recently, Keasey and McGuinness (1991) examined the pricing aspect of the shares offered by UK companies. In this study, the authors also re-evaluated the accuracy of forecasts contained in 121 IPOs issued from 1984 to 1986. Their results indicated that 109 forecasts exhibited positive errors compared to only 12 negative errors, and the mean of forecast errors was only 5 percent. These positive forecast errors suggested that the forecasts were conservative instead of being optimistic. The mean absolute forecast error was only 11 percent. The comparison of IPO forecasts with naive model forecasts did not show any significant difference between the accuracy of IPO forecasts and model forecasts.

The accuracy of Australian forecasts has been examined by Lee, et al. (1993) on a sample of 98 IPOs from 1976 to 1989. Their findings indicated that the IPO forecasts were highly inaccurate; the mean absolute forecast error was as high as 1138.3%. But the median forecast error was comparatively small, i.e. 42%, which indicated that the mean forecast error was influenced by the extreme values of certain negative forecast errors. Their findings also indicated that the forecasts were overly optimistic, with the mean forecast error of 994.4%. The positive forecast error meant that forecasts were high compared to actual results. The results, however, did not indicate any association between most company-specific characteristics and forecast accuracy. The only exception was the time

horizon of forecasts, which indicated that forecasts with shorter time horizon were comparatively more accurate. No significant association was detected between the forecast errors and the company's characteristics of age and size and between forecast errors and issue size.

In the Asian countries, Singapore IPOs received the special attention of researchers as is demonstrated by three studies conducted on them. The first study was conducted in 1987, and this was based on 51 IPOs issued from 1972 to 1984 (Tan, 1987). It examined the reliability of profit and dividend forecasts, and its findings indicated a mean forecast error of 24 % for profit forecasts and 16 % for dividend forecasts. A comparative analysis of forecast errors of different industry groups indicated that the mean forecast error was comparatively lower for companies from the finance and hotel sectors.

The second study examined the quality of auditor's services on the basis of the mean forecast error of IPO earnings forecasts (Lam and Chang, 1994). The findings of this study did not show any difference in the forecast errors of companies audited by "Big Six" firms and "non- Big Six" firms. These results were interpreted by the authors to mean that there was no difference in the quality of audit services of the two groups of auditors, i.e. "Big Six" and "non-Big Six." These results also suggest that the forecast error is not influenced by the company's auditors.

Recently, Firth, et al. (1995) re-examined the accuracy of profit forecasts contained in 114 IPOs issued by Singapore companies from 1980 to 1993, and also evaluated whether the company-specific characteristics had any impact on the forecast accuracy. Their findings indicated that the IPOs of Singapore companies exhibited comparatively higher forecast accuracy than that reported for IPOs issued in Australia, Canada, or New Zealand. With regard to the determinants of accuracy, their findings indicated that the forecast error was positively associated with the forecast horizon, suggesting that a shorter forecast horizon resulted in a lower forecast error. The results did not show any significant association of forecast errors with the company's size or the company's auditors.

On an overall basis, the findings of earlier studies indicate that forecast accuracy differs from country to country, and it is comparatively low for Australian and New Zealand firms. The time horizon of forecast is considered to be an important variable to explain the variation in forecast accuracy across companies. The age of companies sometimes has some influence on the accuracy of forecasts. The results on the association between forecast error and company size are mixed. None of the studies show any association between forecast errors and the company's auditors or leverage.

III. RESEARCH METHODOLOGY AND DATA COLLECTION

Accuracy of forecasts contained in the IPO prospectuses of Hong Kong companies is examined by using the forecast error measure. After discussion of the nature of forecast error measure used in this study, hypotheses are developed.

Forecast Error Metrics

The forecast error measure reflects the difference between the predicted and actual figures for the same time period. The forecast error measures can be calculated with or without the error sign. The signed forecast error measure (FE) evaluates *bias* in the fore-

casts, which shows whether managers have been optimistic or conservative in their forecasts. The average forecast error based on the signed error measure, however, does not provide reliable information on the average size of the error because negative and positive errors cancel each other out. Therefore, in order to determine *accuracy* of forecasts on an average basis, over- as well as under-estimation of forecasts should be included in the calculation, and for that purpose the absolute forecast error measure (AFE) is considered to be appropriate.

Both forecast error measures (FE and AFE) can be deflated either by the absolute amount of actual numbers or forecast numbers. In most studies, actual numbers are used as a deflator, because forecast errors in relation to actual results are considered to provide more meaningful information.

In this study, both the signed forecast error (FE) and absolute forecast error (AFE) measures are used, and these have been calculated as follows:

$$FE_i = (A_i - P_i) \,/\, |A_i| \tag{1}$$

$$AFE_i = |(A_i - P_i)| \,/\, |A_i| \tag{2}$$

where,

FE_i = Signed Forecast Error for company i,
AFE_i = Absolute Forecast Error for company i,
A_i = Actual EPS, Profit, or Dividends of company i,
P_i = Predicted EPS, Profit, or Dividends of company i.

Three separate forecast errors are calculated for EPS, profits and dividends. The positive sign of the signed forecast error measure (FE) indicates that actual figures are higher than predictions, and the negative sign indicates that predictions are higher than actuals, suggesting that managers have been over optimistic in their forecasts.

Hypotheses

First, we develop hypotheses for *bias* and *accuracy* of IPO forecast accuracy of Hong Kong companies. Second, we develop a set of hypotheses on the association between company specific characteristics and forecast accuracy.

1. Bias in Forecasts

It can be argued that management will be motivated to present a positive picture of the company's future operations because this information is likely to play an important role in the investors response to the shares offered. To encourage prospective investors to respond positively to IPOs, managers are likely to present optimistic forecasts. Findings of earlier studies in other countries have also suggested that managers are generally optimistic in their forecasts.[4] Similar to the behavior of managers from other countries, especially in the Pacific Basin region, the Hong Kong managers are also expected to be optimistic in

their forecasts, which would mean that they are likely to over-estimate their future performance. This expectation is tested upon the following hypothesis:

> **H-1:** *Forecasts contained in Hong Kong IPOs will show comparatively more negative forecast errors, suggesting that IPO forecasts are optimistic.*

Rejection of the above hypothesis would suggest that IPO forecasts for Hong Kong companies are not optimistic.

2. The Degree of Accuracy of Forecasts

The over-estimation of forecasts is likely to influence the management credibility in the future. The management does not want their reputation or their company's reputation be tarnished. The management is, therefore, expected to stay within certain limits while over-estimating their forecasts. This means that their predictions are not expected to deviate significantly from the actual reported numbers, meaning that accuracy of forecasts will be high. To evaluate the accuracy of forecasts, both negative and positive deviations are considered to be forecast errors. The following hypothesis is developed to test this expectation:

> **H-2:** *Forecasts contained in Hong Kong IPOs will not differ significantly from the actual reported numbers, suggesting that IPO forecasts exhibit high accuracy.*

Rejection of the above hypothesis would suggest that the accuracy of IPO forecasts for Hong Kong companies is low.

3. Forecast Accuracy and Time Horizon

It has been argued in the literature that the degree of forecast accuracy depends upon the time horizon of forecasts (e.g. Ferris and Hays, 1977; Lee et al., 1993; Firth, et al. 1995). Forecasts with a shorter time horizon are expected to be more accurate than those with a longer time horizon, because longer time horizons are associated with greater uncertainty. Moreover, forecasts made closer to the end of the forecast period will have a better set of information on which the forecasts are based. There is, however, a counter argument that a longer time horizon would provide management with an opportunity to adjust the company's operations and exercise discretion in the maintenance and capital expenditures decisions which would result in bringing the actual results closer to forecasts[5]. The following hypothesis is developed to test the association between forecast accuracy and time horizon of forecasts of Hong Kong companies:

> **H-3:** *The shorter the time horizon of forecasts, the greater the accuracy of forecast, meaning the lower the forecast error.*

According to the above hypothesis, there will be a positive association between forecast errors and the time horizon of forecasts.

4. Forecast Accuracy and Company Size

Company size is considered to be another important variable which may influence the forecast accuracy. It has been argued that large companies will be able to use the best

expertise and modern sophisticated forecasting techniques as well as modern computer technology to generate more accurate forecasts (e.g. Eddy and Seifert, 1993; Firth and Smith, 1992; Mak, 1994). Some authors have also argued that larger companies might even have greater control over their market settings and they might have gained comparative economies of scale making them less susceptible to economic fluctuations (e.g. Firth, et al. 1995). This would mean that they would be able to make more accurate forecasts.

On the other hand, any large company's capability to enhance forecast accuracy is considered to be limited because the corporate bureaucracy and the company's massive size could hinder its efficiency and forecasting effectiveness (e.g. Herbig, Milewicz and Golden, 1993). Thus, large size companies may not be able to make more accurate forecasts than small size companies. The association between the forecast accuracy and company size is tested upon the following hypothesis:

> **H-4:** *The larger the company, the greater the forecast accuracy, meaning the lower the forecast error.*

This hypothesis suggests that there will be a negative association between the forecast error and company size.

5. Forecast Accuracy and Company's Age

The age of companies has also been recognized as another potential determinant of forecast accuracy. Those companies which have been in existence for a number of years would be in a better position to make predictions about their future performance, because they are likely to have a better appreciation of market environment and have comparatively better control over their operations (e.g. Firth and Smith, 1992; Lee et al., 1993). The younger companies may not be able to fully understand and appreciate the environmental impact on their future performance, and the lack of historical bases may hinder their capability to make accurate forecasts. This association for Hong Kong companies is tested upon the following hypothesis:

> **H-5:** *The younger the company, the lower the forecast accuracy, meaning the higher the forecast error.*

The above hypothesis suggests that there will be a negative association between forecast error and the company's age.

6. Forecast Accuracy and Company's Financial Leverage

Under certain circumstances, the financial leverage of a company may become an important explanatory variable for forecast accuracy. It has been argued that a higher debt level may render forecasting of the company's earnings more difficult, because greater financial leverage of a company causes greater variability in its earnings (e.g. Eddy and Seifert, 1992; Firth and Smith, 1992). It has been argued that companies with relatively high debt levels are likely to experience a more volatile profit record, which would make forecasting more difficult. On the basis of these arguments, the following hypothesis is developed for Hong Kong companies:

> **H-6:** *The greater the financial leverage, the lower the forecast accuracy, meaning the higher the forecast error.*

This hypothesis suggests that the association between the forecast error and financial leverage will be positive.

7. Forecast Accuracy and The Auditor's Reputation

It has been suggested in the literature that forecast accuracy is likely to be high if the company's auditor is one of the "Big Six" audit firms (e.g. Beatty, 1989; Keasey and McGuinness, 1991). This argument is based on the quality of audit conducted by "Big-Six" firms and the prestige of the company with regard to reliability of information contained in its prospectus. Simunic and Stein (1987) have especially emphasized that the "Big-Six" audit firms are the producers of high quality audits and that they have very large investments in reputational capital. It has been argued that if a new issue turns sour, "Big Six" auditors would have comparatively more to lose. Therefore, they exercise greater caution to ensure greater accuracy of forecasts contained in IPO prospectuses.

The empirical evidence so far shows that there has been no difference in the forecast accuracy of companies audited by "Big Six" and "Non-Big Six" (Lam and Chang, 1994). Based on the arguments of high quality of audit conducted by "big-Six" audit firms, the following hypothesis is developed for Hong Kong companies:

> **H-7:** *Forecast accuracy will be comparatively higher for companies audited by "Big Six" auditors, which means lower forecast error for these companies.*

The company's auditor belonging to the "Big-Six" auditing firms is coded as "1," and "non Big- Six" as "0." Therefore, this hypothesis suggests that the association between forecast errors and auditors will be negative.

Sample Selection and Data Collection Procedures

The study is based on IPO prospectuses of companies which were listed with the Stock Exchange of Hong Kong from 1990 to 1994. During this period, 262 new issues were listed on the Stock Exchange. The companies satisfying the following criteria were included in the study:

1. IPO prospectuses as well as annual reports for the IPO year were available, and
2. IPO prospectuses contained forecast information either on profits, EPS or dividends.

As a result of this screening process, 203 companies were originally included in the study. All companies do not issue forecasts for profits, EPS and dividends. In order to have a consistent sample throughout the analyses, only those companies were retained in the sample which published forecasts for profits, EPS as well as dividends. As a result of this screening process, 12 companies were dropped from the analyses. The remaining sample companies were again screened with regard to the availability of data on the company characteristics. If data were missing for any item, the companies were dropped from the analyses. As a result of this screening process 30 additional companies were dropped

Table 1. Distribution of IPO Sample Firms By Year and Industry

	Number of Firms
Panel A — By Year	
1990	4
1991	34
1992	43
1993	45
1994	35
TOTAL	161
Panel B — By Industry	
Industrial, Manufacturing, Textile, Electronics	76
Conglomerate	9
Hotel, Real Estate, Construction	26
Banking	8
Public Utility	3
Retailing, Shipping and Others	39
	161

from the sample. The final sample consisted of 161 companies. The breakdown of the sample by year and by industry is provided in Table 1.

The sample frequency distribution by year (Panel A) indicates that except for 1990, the sample is almost equally distributed over the remaining four years. The frequency distribution by industry (Panel B) shows that almost half of sample companies belong to the industrial group, and the remaining half is distributed over different industry groups.

Calculation of Variables

The forecast time horizon is represented by the number of months from the date the prospectuses were issued up to the fiscal year-end of the company subsequent to the prospectus date. The age of the company is represented by the number of years the company has been operating. The financial leverage is calculated by dividing the total liability by total assets before listing. The company's size is represented by total assets. In order to control the impact of large variations in asset size of different companies, the log of total assets is used in the regression analysis. Data for variables were obtained from the IPO propsectuses.

Statistical Analyses

The forecast *bias* is evaluated by comparing the frequency distribution of negative and positive forecast errors (FE) for profits, EPS and dividends. The comparative *accuracy* of forecast is examined by evaluating the Absolute Forecast Errors (AFE) of Hong Kong companies. The association between the forecast accuracy and company characteristics is examined by conducting a multiple regression test on the absolute forecast error (AFE) as the dependent variable, five company-specific characteristics as independent variables, and Industry as a control variable. Industrial companies are coded "1" and companies

from all other industry groups, non-industrial companies, are coded as "0." The following regression model is used:

$$AFE_i = \alpha_i + \beta_1 H_i + \beta_2 S_i + \beta_3 A_i + \beta_4 L_i + \beta_5 Au_i + \beta_6 I_i + \varepsilon_i \tag{3}$$

where,

AFE_i = Absolute Forecast Error for firm i,
α_i = constant,
$\beta_{1\text{-}6}$ = coefficients of variables,
H_i = Time Horizon of forecasts for firm i,
S_i = Size (Log of Total Assets) of firm i,
A_i = Age of firm i
L_i = Financial Leverage of firm i,
Au_i = Auditor of firm i, (1 = Big-Six;0 = non Big-Six)
I_i = Industry type of firm i,
(1 = industrial firms; 0 = Non-industrial firms).
ε_i = Error term

IV. RESULTS

Descriptive Statistics of Independent Variables

Descriptive statistics on company-specific characteristics are presented in Table 2:

The median operating history (age of the company) shows that half of the companies were in the business between 0 and 20 years, out of which only one company was brand new and one company had experience of five years and another of six years. The companies were widely dispersed with regard to size. An analysis of time horizon indicated that the time horizon of forecasts for a significant number of companies was less than six months. Most companies did not show high leverage.

Descriptive statistics on forecast errors are contained in Table 3.

Table 2. Descriptive Statistics of Independent Variables

	N	*Mean*	*Median*	*Standard Deviation*	*Min*	*Max*
Time Horizon of Forecasts (In Months)	161	4.43	5.00	2.70	0	12.00
Total Assets (In HK$M)	161	874.98	210.83	3103.84	10.06	31854.38
Age Of Business (In Years)	161	22.45	20.00	17.04	0	90
Financial Leverage	161	0.71	0.70	0.54	0.078	6.753
Auditor	161	0.89	1	0.31	0	1

Table 3. Descriptive Statistics on Forecast Errors for Total Sample

FE = (Actual - Forecast) / | Actual |
AFE= | (Actual- Forecast) | / | Actual |

	EPS (N=161)		PROFITS (N=161)		DIVIDENDS (N = 161)	
	FE(%)	AFE(%)	FE(%)	AFE(%)	FE(%)	AFE(%)
Mean Error	3.10	12.86	6.50	12.79	-7.78	16.72
Median Error	3.53	4.55	4.09	5.03	0.00	0.00
Std Dev	29.13	26.30	22.05	19.09	58.45	56.54
Min	-225.47	0.00	-147.82	0.05	-500.00	0.00
Max	68.09	225.4 7	63.96	147.82	87.50	500.0 0

Analysis of Bias and Accuracy of IPO Forecasts

The minus sign of the mean signed forecast error (FE) for dividends indicates that on average forecasts for dividends were over-estimated and plus sign for EPS and profits indicates that on average EPS and profits were under-estimated. In order to have a better insight into the forecast error distribution, the frequency distribution of forecast errors was calculated, and the results are provided in Table 4.

The results contained in Table 4 show that out of the total sample of 161 forecasts, 12 forecasts for EPS, 13 for profits and 17 for dividends are associated with negative forecast errors, and all other forecasts are associated with positive forecast errors. The frequency distribution of forecast errors thus shows that most forecasts are associated with positive errors, meaning that actual results for most companies are higher than forecasts. These results are interpreted to mean that most Hong Kong companies have been under-predicting rather over-predicting forecasts for profits and EPS, as well as for dividends. Thus, these results do not support Hypothesis 1 that Hong Kong companies generally over-predict. This finding suggests that Hong Kong companies instead of being optimistic are generally conservative in their IPO forecasts. This finding differs significantly from the reported findings for other countries, which show that companies in these countries generally over-predict.

The results with regard to absolute forecast errors (AFE) show that the mean AFE for EPS, profits and dividends of Hong Kong companies is 12.86%, 12.79% and 16.72% respectively. The mean AFE for EPS is significantly smaller compared to the reported mean AFE for Australian companies (12.86% versus 1138.3%) and New Zealand companies (12.86% versus 141%), and it is also relatively smaller compared to the reported mean AFE for Singapore companies (12.86% versus 24%). The mean AFE is, however, slightly higher compared to that of the UK companies (12.86% versus 11%). The slight difference between the forecast errors of Hong Kong and UK companies could be due to the differences in the sample size. The low means of AFE for IPO forecasts of Hong Kong companies thus suggest that these forecasts exhibit a high degree of accuracy, and these results support Hypothesis 2. The lower forecast errors of Hong Kong IPOs than those

Table 4. Frequency Distribution of Forecast Error

FE = (*Actual* - *Forecast*) / | *Actual* |
AFE = | (*Actual* - *Forecast*) | / | *Actual* |

	FE		AFE	
	N	*Percentage*	*N*	*Percentage*
Panel A—Earning Per Share (EPS) (*N* = 161)				
EPS>100	0	0.0	3	1.9
100>=EPS>50	4	2.5	6	3.7
50>=EPS>25	9	5.6	10	6.2
25>=EPS>10	23	14.3	26	16.1
10>=EPS>5	29	18.0	32	19.9
5>=EPS>0	78	48.4	79	49.1
EPS=0	5	3.1	5	3.1
0>EPS>=-5	1	0.6		
-5>EPS>=-10	3	1.9		
-10>EPS>=-25	3	1.9		
-25>EPS>=-50	1	0.6		
-50>EPS>=-100	2	1.2		
-100>EPS	3	1.9		
Panel B—Profit (NI) (*N* = 161)				
NI>100	0	0.0	1	0.6
100>=NI>50	6	3.7	9	5.6
50>=NI>25	12	7.5	14	8.7
25>=NI>10	30	18.6	33	20.5
10>=NI>5	22	13.7	24	14.9
5>=NI>0	78	48.4	80	49.7
NI=0	0	0.0	0	0.0
0>NI>=-5	2	1.2		
-5>NI>=-10	2	1.2		
-10>NI>=-25	3	1.9		
-25>NI>=-50	2	1.2		
-50>NI>=-100	3	1.9		
-100>NI	1	0.6		
Panel C —Dividend (DIV) (*N* = 161)				
DIV>100	0	0.0	7	4.3
100>=DIV>50	4	2.5	6	3.7
50>=DIV>25	3	1.9	10	6.2
25>=DIV>10	10	6.2	11	6.8
10>=DIV>5	11	6.8	11	6.8
5>=DIV>0	10	6.2	10	6.2
DIV=0	106	65.8	106	65.8
0>DIV>=-5	0	0.0		
-5>DIV>=-10	0	0.0		
-10>DIV>=-25	1	0.6		
-25>DIV>=-50	7	4.3		
-50>DIV>=-100	2	1.2		
-100>DIV	7	4.3		

reported for IPOs of other countries, especially from the Pacific Basin region, suggest that Hong Kong IPO forecasts have been comparatively more accurate than IPO forecasts of companies from other countries.

Association Between Forecast Errors and company-specific Characteristics

The association between the forecast accuracy (AFE) and company characteristics has been examined by conducting OLS regression tests on profit, EPS and dividend forecasts. The results are contained in Table 5.

The regression test results show that the coefficients for company's age for all three tests are in the expected direction and the coefficient for profit forecasts is statistically significant. The significant coefficient thus suggests that the mature companies have been associated with comparatively lower forecast errors meaning that the accuracy of their profit forecasts has been comparatively high. The results of earlier studies for New Zealand (Firth and Smith, 1992) and Australian companies (Lee et al., 1993) did not show any significant association between accuracy and the company's age. The results of this study are interpreted to mean that Hong Kong companies which have been in existence for a longer period of time can be expected to have more accurate forecasts than younger companies. These results suggest that companies with a longer experience have a better appreciation of market environment and they have better control over their operations compared to younger companies. Another explanation for this result could be that younger companies may be more enthusiastic to provide a better picture of future performance, and thus they may make comparatively inaccurate forecasts. These results thus provide some support for Hypothesis 5 of this study.

The coefficients for the time horizon variable for all three forecasts are in the expected direction. The positive coefficients suggest that companies are likely to make more accurate predictions when the forecast horizon is comparatively shorter. The direction of the coefficients is consistent with the results of some earlier studies which have shown a sig-

Table 5. Regression Results on Absolute Forecast Errors (AFE)

$$AFE_i = \alpha_i + \beta_1 H_i + \beta_2 S_i + \beta_3 A_i + \beta_4 L_i + \beta_5 Au_i + \beta_6 I_i + \varepsilon_i$$

		Profit		*EPS*		*Dividend*	
Dependent Variables		*Coefficient*	*t-Values*	*t-Values*	*Coefficient*	*t-Values*	*Coefficient*
Independent variables	*Expected Sign*						
Intercept		0.164	1.86	0.186	1.51	0.108	0.41
Time Horizon (H)	+	0.006	1.05	0.0004	0.06	0.027	1.58
Firm Size(S)	–	0.011	0.86	0.007	0.43	-0.0001	-0.003
Firm Age(A)	–	-0.002	-2.15*	-0.00002	-0.01	-0.002	-0.74
Leverage(L)	+	-0.013	-0.45	-0.035	-0.88	-0.049	-0.58
Auditor (Au)	–	-0.075	-1.50	-0.071	-1.01	0.021	0.14
Industry(I)		-0.0004	0.01	-0.025	-0.59	0.010	0.11
N		161		161		161	
R2		0.05		0.02		0.02	
F-Value		1.25		0.43		0.56	

Note: * Significant at the 0.05 level.

nificant association between forecast accuracy and time horizon of forecasts, e.g. Firth, et al. (1995) on Singapore companies and Lee et al. (1993) on Australian companies. However, Firth and Smith (1992) did not find any significant association between forecast accuracy and forecast horizon for New Zealand companies. Similarly, Ferris and Hayes (1977) did not detect any significant association between two variables for the UK companies. The findings of this study may be interpreted to mean that time horizon could play an important role in the accuracy of forecasts, i.e. the shorter the time horizon, the better the forecast accuracy, but the insignificant results do not fully support Hypothesis 3 that the IPO forecasts of Hong Kong companies with shorter time horizon will be more accurate.

The results on the size variable show that the coefficients are positive for profits and EPS, suggesting that larger companies have been associated with higher forecast errors, meaning their accuracy has been low. But the coefficient for dividends is negative, suggesting that larger companies have made lower forecast errors, meaning higher accuracy for dividends. All coefficients are statistically insignificant. Therefore, these results do not support Hypothesis 4. The results on profit and EPS are more in line with the Firth-Smith (1992) findings on New Zealand companies, and Ferris-Hayes (1977) findings on UK companies. The results of other studies, such as the Lee et al. (1993) findings on Australian companies and the Firth et al. (1995) findings on Singapore companies, have shown no significant association between forecast accuracy and company size. The insignificant coefficient in this study can be interpreted to mean that the company size has probably no impact on the level of IPO forecast accuracy of Hong Kong companies.

The coefficients for financial leverage are not in the expected direction. The negative coefficients suggest that highly leveraged companies could have lower forecast errors, meaning that their forecasts would be more accurate. But none of the coefficients are statistically significant, which means that there is no significant association between forecast accuracy and financial leverage. These results thus do not provide support to Hypothesis 6, that companies with smaller leverage would be able to make more accurate forecasts. These results are consistent with the results of earlier studies (e.g. Firth and Smith, 1992).

The results with regard to the company's auditor are in the expected direction for EPS and profits, but the coefficient for dividends is not in the expected direction. However, none of the coefficients are significant. These results do not support Hypothesis 7, that the IPO forecast accuracy would be higher if the company is audited by a "Big-Six" auditing firm. The results of earlier studies have also shown that there is no association between the forecast accuracy and the company's auditor. Firth and Smith (1992) did not find this association for New Zealand companies and Firth et al. (1995) also did not find this association for Singapore companies. The results of this study provide additional support to the findings of earlier studies.

The results with regard to the control variable of industry are also insignificant, suggesting that being an industrial or non-industrial company has no impact on the accuracy of forecasts.

Sensitivity Analysis for Companies" Domicile

An analysis of the domicile of sample companies indicated that out of 161 sample companies, only 24 companies had Hong Kong as their domicile and 117 indicated Bermuda as their domicile. The remaining companies' domicile was either the British West Indies

or China.[6] It appears that political uncertainty associated with the Chinese take over of Hong Kong from July 1, 1997, encouraged several Hong Kong companies to move their domicile out of Hong Kong and the majority of the sample companies chose Bermuda as their domicile. We calculated forecast errors of Bermuda and Hong Kong domiciled companies and examined whether forecast accuracy of companies from the two groups would differ. The results on average forecast errors for the two groups are contained in Table 6.

T-test were conducted to examine whether forecast errors of Hong Kong and Bermuda domiciled companies differed significantly. The t-test results indicated that the differences in the forecast errors of the two groups were not statistically significant, suggesting that there was no significant difference in the IPO forecast accuracy of companies whether they were domiciled in Bermuda or Hong Kong. The forecast errors of West Indies and China domiciled companies were not analysed because the smaller number of companies would not provide any meaningful results.

We also conducted regression tests with AFE as a dependent variable and company characteristics as independent variables for Bermuda and Hong Kong domiciled companies. The results for Bermuda domiciled companies were similar to the results of the total sample except for the coefficient of the auditor variable. This coefficient for profit forecasts remained minus, but it became significant at the .05 level, suggesting that forecast errors for profits were comparatively smaller for Bermuda domiciled companies audited by "big-Six" audit firms. The coefficient sign for dividends was also minus, but insignificant.

The results for Hong Kong companies were slightly different compared to the total sample results, and three coefficients for this group of companies were statistically significant at the .05 level. First, the time horizon coefficient for EPS forecasts had a significant minus sign, suggesting that forecasts with a longer time horizon had lower forecast errors. Second, the leverage coefficient for EPS forecasts was minus and significant, suggesting that highly leveraged companies had lower forecast errors. Third, the coefficient for the company size for dividends was positive, suggesting that smaller companies exhibited lower forecast errors for dividend forecasts. None of the coefficinets for profit forecasts was significant. Because the sample size for this group is very small, the regression results for this group need to be interpreted with caution.

V. CONCLUSION

The findings of this study provide useful information on *bias* and *accuracy* of IPO forecasts as well as on the impact of different company-specific characteristics on forecast

Table 6. Mean Forecast Errors for Companies with Domicile in Hong Kong and Bermuda

FE = (Actual - Forecast) / | Actual |
AFE= | (Actual- Forecast) | / | Actual |

	EPS		PROFITS		DIVIDENDS	
	FE(%)	AFE(%)	FE(%)	AFE(%)	FE(%)	AFE(%)
Hong Kong Domicil ed Compani es (N = 24)	1.20	21.26	9.74	13.19	-5.22	13.47
Bermuda Domicil ed Compani es (N = 117)	2.19	11.24	5.03	12.75	-7.22	14.75

accuracy. The findings demonstrate that unlike IPO forecasts disclosed in most other countries, IPO forecasts disclosed by Hong Kong companies are generally not optimistic. Most Hong Kong companies have been conservative in disclosing forecast information, meaning that their actual earnings have been higher than their forecasted earnings. Apparently, managers have been underestimating their forecasts, probably to establish their credibility for the future.

The level of accuracy of Hong Kong IPO forecasts has also been significantly better than the IPO forecast accuracy of Australian and New Zealand companies, and also slightly better than that of Singapore companies. The accuracy of Hong Kong IPO forecasts is, however, slightly lower compared to the accuracy of IPOs of UK companies, but the difference is insigificant. These findings suggest that IPO forecasts of Hong Kong companies are more accurate than IPO forecasts published in several other countries.

The findings show that there is some positive association between forecast accuracy and company age, i.e. the number of years the company has been in business. The mature companies, i.e. companies which have been in existence for comparatively a longer period of time, are likely to disclose more accurate forecasts. This is probably because of their experience in the business. Apart from this association, the results do not show that forecast accuracy is affected by any other company-specific characteristic examined in this study, and these characteristics include the company's size and leverage, time horizon of forecasts, and auditor. The findings of this study thus support the findings of most earlier studies that there is no influence of the company's auditor on the accuracy level of IPO forecasts. The forecast accuracy is not likely to be better if the company's auditor belongs to "Big-Six" auditing firms.

On the basis of these findings, we conclude that IPO forecasts disclosed by Hong Kong companies provide reliable forecast information. The Hong Kong Stock Exchange should, therefore, encourage companies to provide forecast information in the IPO prospectuses. The findings on the association between forecast accuracy and company specific characteristics needs to be interpreted with caution because the regression model might not have included all relevant variables and thus the omitted variables might have influenced the results of this study.

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NOTES

1. The listing requirements are given in sections 37 and 38 of the Companies Ordinance, in the Third Schedule to the Ordinance, and in Part A of Appendix 1 of the Listing Rules of the Stock Exchange of Hong Kong. The auditing guidelines 3.341 issued by the Hong Kong Society of Accountants provide guidance to accountants for verification of profit forecasts made in IPO prospectuses.
2. Paragraph 11.19 of the Stock Exchange of Hong Kong (SEHK) Rules governing the listing of securities states: "The assumptions upon which any profit forecast appearing in a Listing document (other than one supporting a capitalisation issue) are based must provide useful information to investors to help them in forming a view as the reasonableness and Reliability of forecasts."

3. According to Para 41 (4) of Appendix 7a of the SEHK rules, if trading results shown by the accounts for the period under reveiw differ materially from any published forecast made by the issuer, an explanation for the difference be provided.
4. Findings of earlier studies on IPOs issued by New Zealand and Australian companies show that forecasts have been mostly optimistic, see Firth and Smith (1992) and Lee et al. (1993), respectively.
5. It has been argued by almost every study on earnings forecasts that shorter time horizons of earnings forecasts will lead to more accurate forecasts. This argument is especially valid for analyst forecasts. But so far as management forecasts are concerned, time horizon of forecasts is not likely to have much effect on the forecast accuracy, because management can manage actual earnings to bring them closer to forecasts, and they especially will have more flexibility to do so when the time horizon is long. For discussion of the effect of time horizon of forecasts also see Ferris and Hayes (1977).
6. An analysis of domicile of sample companies indicates that 72.7% of companies included in the sample are domiciled in Bermuda and only 14.9 are Hong Kong domiciled. Out of the remaining companies 8.1% are domiciled in British West Indies and 4.3 are from China. Discussions with company executives and Hong Kong CPA firms indicated that the uncertainty associated with the Chinese take over of Hong Kong effective July 1, 1997, has motivated some companies to opt for domicile outside Hong Kong. Thus, domicile outside Hong Kong is rather politically motivated. The analyses of forecast errors has indicated that there are no significant differences between the accuracy of IPO forecasts for Bermuda and Hong Kong domiciled companies. The number of Hong Kong domiciled sample companies, however, is much smaller compared to the Bermuda domiciled sample companies.

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The Transfer Pricing Concerns of Developed and Developing Countries

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Key Words: Transfer pricing; International tax issues

Abstract: *Are concerns about transfer pricing, income shifting, and inequitable tax allocations exaggerated in recent accounting and tax literature? A survey of 47 countries provides evidence that transfer pricing issues are of genuine and increasing concern to the governments of both developed and developing countries. One recommendation to curtail transfer pricing manipulations is to develop standardized transfer pricing policy and procedures to be implemented globally. A second suggestion is to mandate increased disclosures about the magnitude and effects of transfer pricing on subsidiary income and tax liabilities in the financial reports of transnational corporations engaging in cross-border transactions. However, as long as some countries continue to operate as tax havens, income shifting by TNCs is tacitly encouraged and will continue unabated. Concurrent with globally acceptable standards must be the gradual elimination of tax rate differentials that contribute to income shifting and the inevitable misallocation of tax revenues.*

The expanded global activities of transnational corporations (TNCs) affect many countries, whether the countries are hosts to subsidiaries or homes to the parent TNC. The increasingly sophisticated and complex economic, political, technological, and legal/regulatory environments, especially in developing countries, are reflected in the rising number and types of cross-border transactions engaged in by the TNCs. These transactions, in addition to the increased number of countries engaging in transnational activity, are compelling each country to develop and enforce international tax regulations and treaty provisions. These safeguards are necessary to minimize income shifting and subsequent tax avoidance by TNCs operating in that country.

TNCs may choose to exploit differences in tax policies, transfer pricing regulations, import duties, withholding taxes, currency risks, and profit repatriation restrictions. Such exploitation enables TNCs to shift profits from subsidiaries between tax jurisdictions to

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maximize global profit and/or minimize taxes, thus depriving some countries of their proper tax revenues. Developing and recent market economy countries, new to many international transfer pricing issues, are increasingly at risk. The economic consequences of transfer pricing manipulations to shift profits are significant and can be minimized through the establishment and enforcement of transfer pricing policies and procedures. In the past, some developing countries avoided transfer pricing controls for fear of discouraging foreign investment, the existence of monopolies within the country, and a lack of administrative experience. Transfer pricing regulations are critical for these countries to compete in the current economic environment.

A survey of countries across economic levels and tax haven status provided data on the perceived extent of, and suggestions to curtail, transfer pricing manipulations by resident and foreign-based TNCs. Information about preferred transfer pricing methods was also gathered. The perception of TNC income shifting and tax avoidance from the governmental perspective may assist global organizations in establishing and enforcing consistent and globally sanctioned transfer pricing policies and procedures. The global acceptance of uniform transfer pricing regulations is a crucial step toward the harmonization of international accounting practices. Such harmonization is vital to lessen disputes among tax authorities about the primacy of any given country's transfer pricing regulations. It may also spur more rigorous reporting requirements by countries about the magnitude and effects of a TNC's transfer pricing activity on a country's legitimate tax base.

TRANSFER PRICING AND INCOME SHIFTING

Transfer pricing is a strategy for pricing tangible goods and intangible services transferred between parent and subsidiaries, or between subsidiaries, to maximize profits, minimize taxes, maintain goal congruence, and/or evaluate managerial performance. These transfers may be between domestic entities or involve cross-border transactions. It is only international transfer pricing activity that lends itself to potential cross-border income shifting and tax reallocation to the TNC's advantage.

Acceptable methods for transfer pricing are generally based on the arm's-length principle and encompass a wide range of options, depending on a specific country's regulations. Common globally accepted methods are comparable uncontrolled price (market), resale price, and cost-based methods; others, such as the profit split and comparable profit methods, are accepted by some countries but not others; formulary apportionment is generally not accepted by most countries.[1] A theoretically correct transfer price is calculated using one of these methods to allocate the profits from the transfer equitably to the involved parties, ensuring a fair recognition of taxable income in each jurisdiction.

The definition of *theoretically correct* varies by constituent, however. TNCs determine which methods are acceptable using models that assess the economic, organizational, sociological, political-legal, and environmental factors affecting them (Abdallah, 1989; Borkowski, 1992). In contrast, many governmental taxing authorities have specific transfer pricing regulations that dictate acceptable methods. These regulations can be broad in scope, such as those imposed by Inland Revenue in the United Kingdom, or quite stringent, such as Section 482 (IRS 1994) of the U.S. Internal Revenue Code (IRC).

TNCs consider many factors, including tax rates and transfer pricing restrictions, when making decisions about the amount and location of their foreign direct investment (FDI) (Leitch and Barrett, 1992). Some developing countries are hesitant, or consciously choose not, to impose strict transfer pricing regulations due to fear of discouraging FDI (UNCTAD, 1997). Global organizations such as the Organisation for Economic Cooperation and Development (OECD, 1995, 1996) and United Nations Conference on Trade and Development (UNCTAD, 1997) issue broad guidelines that may be adopted at a government's discretion.

In practice, differences in the definitions of what constitutes an acceptable method become apparent. Borkowski (1996) surveyed TNCs headquartered in the United States, United Kingdom, Japan, Germany, and Canada about their transfer pricing audit experience. The percentages of TNCs audited by the U.S. IRS due to transfer pricing issues were as follows: U.S. TNCs, 56%; U.K. TNCs, 50%; Japanese TNCs, 18%; German TNCs, 11%; and Canadian TNCs, 4%. Although the U.S. IRS currently enforces one of the most detailed and rigorous sets of transfer pricing regulations, it seems that U.S. and U.K. TNCs have their own perceptions about correct transfer pricing methods and are willing to challenge the tax authority and risk audits. This does not augur well for less developed countries with less sophisticated transfer pricing regulations.

Even countries with experienced tax authorities supported by legislation designed to subvert income shifting are subject to transfer pricing manipulations. Estimates of tax underpayments to the U.S. from all non-U.S. TNCs have been as high as U.S.$11 billion (Ernst & Young, 1993), while recent tax deficiency assessments by the Japanese National Tax Administration (NTA) on U.S. TNCs indicate income-shifting activity by U.S. TNCs operating in Japan. Policies toward profit repatriation and foreign currency exchange controls may encourage TNCs to manipulate transfer prices "to evade exchange control regulations and procedures and to limit exchange risks by importing at higher than fair market prices, particularly where artificial exchange rates exist and where currency devaluations (or revaluations) may be expected" (Lipton, 1994), that is to shift income and cause cross-border tax inequities.

Transfer pricing manipulations have been identified as the source for part of these tax underpayments; Laster and McCauley (1994) attribute 20% to 25% of the gap in profitability between U.S. and non-U.S. TNCs to such manipulations. Others have attributed 50% of the foreign-domestic differential "to the special characteristics of foreign-controlled companies and not to transfer pricing," leaving a significant difference to be caused by transfer pricing practices (Grubert, Goodspeed and Swenson, 1993, pp. 269-271). The U.S. Congress attributes the poor profit performance of non-U.S. TNCs in part to transfer pricing manipulations, resulting in income shifting (Hufbauer, 1992). Some of the differences between U.S. and non-U.S. TNC taxable U.S. profits are attributed to income shifting caused by differences in countries' tax rates (Grubert and Mutti, 1991; Harris, Morck Slemrod and Yeung, 1993; Klassen, Land and Wolfson, 1993). However, little concrete evidence exists to document these attributions and assumptions.

Transfer pricing penalty regulations also vary in severity by country. Among the strictest is the U.S. IRC Sec. 6662, finalized in 1996. This section presents specific accuracy-related penalties for Sec. 482 profit misallocations that result in underpayment of U.S. taxes. The effect of Sec. 6662 should be closer adherence to Sec. 482 transfer pricing regulations by TNCs. However, Hannes, Carney and Salch (1996) feel that Sec. 6662 will only increase the

already high levels of controversy surrounding the IRS' practical application of Sec. 482 and its enforcement of the penalties, as well as increase the burden on U.S. tax courts. Because "performing the detailed data collection and analyses required by Sec. 6662 can lead, at least initially, to inconsistent results and conflicting recommendations regarding choice of methodology," Hannes et al. (p. 10) recommend that these activities be undertaken utilizing attorney-client (TNC) privilege to avoid problematic Sec. 6662 penalties. Among their conclusions are that Sec. 6662 will still allow TNCs to "reduc(e) tax exposure while managing pricing penalty exposure (and) reduc(e) U.S. foreign and worldwide tax liability" (p. 12). It seems that even the strictest penalty regulations cannot stop income shifting.

METHODOLOGY

Most prior transfer pricing research is concerned with TNC behavior and TNC issues with and reactions to regulations. In contrast, this study is concerned with government concerns about transfer pricing, the need for regulations, and TNC manipulations to subvert existing regulations.

Data relating to global transfer pricing issues were collected as one part of the 1995 Questionnaire on Current Developments in the Field of Accounting and Reporting by Transnational Corporations and Other Enterprises. This multipart questionnaire was sent to all U.N. member countries under the auspices of United Nations Conference on Trade and Development.[2] Actual respondents varied according to each government's perceived inhouse expertise in transfer pricing, including members of various ministries of labour, trade, and tax and institutes of chartered and certified accountants, as well as university consultants. However, all respondents completed the survey from the specific governmental, not a corporate, perspective. No significant differences in responses were found when analyzed by type of respondent.

The questions relating to transfer pricing issues included in the overall survey are presented in Appendix A. The translation of the questions from English to each country's official language, and the translation of their responses from their language to English, was performed by U.N. translators.

Of the 185 U.N. member countries, 47 returned surveys with useable data; these countries are listed in Appendix B. Many countries returned questionnaires with the transfer pricing section uncompleted, explaining that they had few or no TNCs in their countries and/or no current concerns with transfer pricing issues. The respondent countries were classified into three economic levels to disclose any differences between developed and developing countries in their transfer pricing concerns, as shown in Table 1, Panel A. Less developed countries might have different motives driving their transfer pricing regulations, perhaps preferring less stringent regulations to encourage FDI. The World Bank's (1995) gross national product per capita criterion (see Table 1) was used to determine economic level. Countries with per capita income of less than U.S.$696 were classified as low income, between $696 and $8,625 as middle income, and more than $8,625 as high income economies.

Countries were also analyzed according to their status as tax havens using the list developed by Hines and Rice (1994). Tax havens would expect income shifting by TNCs and,

Table 1. Survey Respondents

Panel A: By GNP per Capita

	Low Income	*Middle Income*	*High Income*	*Totals*
North America	0	0	1	1
Europe	0	5	10	15
South America	0	2	0	2
Asia	4	6	3	13
Africa	9	3	0	12
Oceania	0	2	2	4
Totals	13	18	16	47

Note: Kruskal–Wallis $p = .0017^{**}$.

Panel B: By Tax Haven Classification

	Low Income	*Middle Income*	*High Income*	*Totals*
Tax Haven	0	3	4	7
Not Tax Haven	13	15	12	40
Totals	13	18	16	47

Note: Kruskal–Wallis $p = .0676^{*}$
* Significant at alpha = .10;
** Significant at alpha = .01.

therefore, perhaps view transfer pricing regulations differently than do non-haven countries. A country is considered a tax haven if its regulations, tax treaties, and so on allow a TNC to reduce its global tax burden by shifting profits into that country. As shown in Table 1, Panel B, no low income countries in this study were tax havens.

The Kruskal-Wallis test was used to compare the responses of the three income groups and of the two tax haven groups. Nonparametric statistics are used due to the categorical nature of the data.

PREFERRED TRANSFER PRICING METHODS

The traditional methods based on the arm's-length principle were preferred by 67% of the respondents, either in a given order of acceptability (comparable uncontrolled price, resale price, cost-plus) or with no preference as to order of acceptability, as shown in Table 2, Panel A. Another 20% accepted both transaction-based and profit-based methods (profit split and comparable profits).

Only one country (Malaysia) was in favor of the global apportionment, or formulary, approach, which receives little support from other countries. However, Malaysia does not consider transfer pricing to be an issue and at present does not have any governmental transfer pricing regulations in place. Rather than specify specific methods, four countries

(Hungary, Italy, Papua New Guinea, Slovak Republic) responded that the mutual agreement procedures contained in tax treaties with other countries were sufficient to ensure the proper allocation of income and fair tax assessments, and one (Romania) chose advance pricing agreements as the mechanism to control transfer pricing.

If developing countries wish to attract TNCs and FDI, the assumption is that their transfer pricing regulations would be less restrictive. This is not supported by this study's findings. Of the 11 low-income countries responding, 6 chose the narrowest allowable option, specific-ordered transaction-based methods, and another 2 the next most restrictive option, transaction-based with no order. It may be that government tax authorities do not consider transfer pricing regulations as an impediment to attracting TNCs.

When compared by tax haven status, no tax haven country preferred the strict transaction-based methods in order, as shown in Panel B. Given the expectation that there will be income shifting in their countries, there is no need to require stringent regulations, differing significantly from those in nonhaven countries.

Table 2. Preferred Transfer Pricing Methods

Panel A: By GNP per Capita

	Low Income	*Middle Income*	*High Income*	*Totals*
Transaction-based methods, specific order of preference	6	4	4	14 31%
Transaction-based methods, no order of preference	2	7	7	16 36%
Transaction based and comparable profits methods	2	2	1	5 11%
Transaction-based and profit split methods	0	1	0	1 2%
Transaction-based, profit split, and comparable profits methods	1	0	2	3 7%
Formulary apportionment	0	1	0	1 2%
Mutual agreement procedures (treaties)	0	2	2	4 9%
Advance pricing agreements	0	1	0	1 2%
Subtotals	11	18	16	45 100%
No method because no TNCs headquartered in country	2	0	0	2
Totals	13	18	16	47

Note: Transaction-based (in specific order) versus other methods, Kruskal–Wallis $p = .7974$.

(continued)

Table 2. (Cont.)

Panel B: By Tax Haven Classification

	Tax Haven	*Not Tax Haven*	*Totals*
Transaction-based methods specific order of preference	0	14	14 31%
Transaction-based methods, no order of preference	6	10	16 36%
Transaction based and comparable profits methods	0	5	5 11%
Transaction-based and profit split methods	0	1	1 2%
Transaction-based, profit split, and comparable profits methods	1	2	3 7%
Formulary apportionment	0	1	1 2%
Mutual agreement procedures (treaties)	0	4	4 9%
Advance pricing agreements	0	1	1 2%
Subtotals	7	38	45 100%
No method because no TNCs headquartered in country	0	2	2
Totals	7	40	47

Notes: Transaction-based (in specific order) versus other methods, Kruskal-Wallis $p = .0557$*.
* Significant at alpha = .10

TRANSFER PRICING MANEUVERS BY NATIONAL TNCS

Respondents were asked to assess the extent and magnitude of transfer pricing maneuvers by TNCs headquartered in their countries to shift income between tax jurisdictions. More than half believed there was an income-shifting problem with resident TNCs and that it was large in magnitude. Only 30% believed there was no problem, and 19% had too few TNCs domiciled in their countries to assess the problem, as shown in Table 3, Panel A.

Transfer pricing maneuvers may lead to distorted competitiveness among companies and to an undue reduction of the tax basis in one country with a corresponding undue tax basis increase in another. Some countries reported that the problem is avoided or lessened by double taxation agreements and tax treaties with other tax jurisdictions. Several countries cited the lack of existing guidelines in their countries and the lack of experience and/or expertise of their accountants and auditors in complex transfer pricing situations. Some believed that although the problem existed in their countries, the true extent of the prob-

Table 3. Profit Shifting by Home-based TNCs: Extent and Magnitude

Panel A: By GNP per Capita

	Low Income	*Middle Income*	*High Income*	*Totals*	
Extent:					
No/too few TNCs to judge	8	9	6	23	49%
Yes	5	9	10	24	51%
Totals	13	18	16	47	100%

Note: Kruskal–Wallis $p = .4413$.

	Low Income	*Middle Income*	*High Income*	*Totals*	
Magnitude:					
Not significant problem/ too few TNCs to judge	9	6	4	19	40%
Significant problem	4	12	12	28	60%
Totals	13	18	16	47	100%

Note: Kruskal–Wallis $p = .0429$*.

Panel B: By Tax Haven Classification

	Tax Haven	*Not Tax Haven*	*Totals*	
Extent:				
No/Too few TNCs to judge	2	21	23	49%
Yes	5	19	24	51%
Totals	7	40	47	100%

Note: Kruskal–Wallis $p = .2477$.

	Tax Haven	*Not Tax Haven*	*Totals*	
Magnitude:				
Not significant problem/ too few TNCs to judge	0	19	19	40%
Significant problem	7	21	28	60%
Totals	7	40	47	100%

Notes: Kruskal–Wallis $p = .0194$*
* Significant at alpha = .10

lem could not be assessed due to the difficulty in obtaining physical evidence of transfer pricing manipulations. Specific comments include the following:

Transfer pricing manipulations distort the picture presented in the financial statements of the enterprises. (Belgium)

While important for tax reasons, our low corporate tax rate reduces the scope of the problem. (Finland)

Instead of paying taxes on income earned in the country, the use of pricing maneuvers could cause substantial foreign income or currency to leave the country. (Grenada)

It is at times an unfair way of competing with local companies. (Malawi)

It is difficult to ascertain the true profit or loss of the TNCs resident in this country. Hence, ascertainment of their tax liabilities in this country also becomes difficult. (Nigeria)

Profit correctly belonging to our country is moved offshore and out of our tax jurisdiction. (Papua New Guinea)

Problems exist because it is aimed at the reduction in income tax and import duties, and avoidance of exchange rate control. (Solomon Islands)

It is important for our national TNCs to validly disclose the results of their operations. Transfers at below market price increase the risk for creditors and lenders, and may mean losses for the government fiscus. (Zimbabwe)

Sixty percent, however, believed that this was a ubiquitous problem, regardless of the effect on their countries. General suggestions ranged from the global adoption of clear transfer pricing guidelines, such as those recommended by the Organisation for Economic Cooperation and Development to full disclosure in the notes to the financial statements. This disclosure must go beyond the requirements of the International Accounting Standards Committee's No. 24: Related Party Disclosures (IASC, 1984) and exposure draft E51, the proposed revision of IAS No. 14: Reporting Financial Information by Segment (IASC, 1995). Others believed that the implementation of rules must remain flexible enough so that commerce is not constrained but strong enough to reduce the risks currently observed. Specific suggestions included the following:

Countries should devote increasing resources to more auditors, scrutinizing transactions closely, enforcing the arm's length principle, and examining the United States approach with respect to penalties. (Canada)

Each country should decide the policies and practices it adopts to ensure that transfer pricing is fair and reasonable. (Cyprus)

The principle of full competition must be maintained while improving procedures to avoid or eliminate double taxation. Administrative practices and internal rules applicable to transfer pricing must also be harmonized. (France)

International criteria relating to transfer pricing on a multilateral basis should be established through organizations such as the OECD. (Japan)

Revenue authorities must tighten transfer pricing rules, particularly as they apply to transactions which deplete a country's tax base. (New Zealand)

Dialogue sessions with tax treaty partners should address mutually acceptable bases for ascertaining the arm's length principle, bearing in mind the need for flexibility in application. (Singapore)

More effective legislation must include anti-income shifting clauses and arm's length concepts, safe harbour rules, and the provision for advance pricing agreements. (South Africa)

Transactions must be subject to more disclosure to ensure transparence and reduce the suspicion of income shifting. (Zambia)

Business ethics and management must be improved at senior levels. Transfer pricing activity must be reported as a specific item in the financial statements. (Zimbabwe)

Most tax haven countries considered income shifting by homebased TNCs to be an issue of concern, and all believed it to be an important issue, as shown in Panel B; however, the reasons are not obvious. If income is shifted into tax havens, those countries will receive more taxable income and therefore should not consider this as an issue. Some possible interpretations are that tax havens are concerned with the reactions of tax authorities of nonhaven countries, with the effects on treaty negotiations, and with the potential negative ramifications on their TNC subsidiaries based in nonhaven countries. These subsidiaries are responsible for shifting the income out of the non-haven host countries and into tax haven countries, depriving host countries of their proper tax revenues.

TRANSFER PRICING MANEUVERS BY NONRESIDENT TNCS

Respondents also assessed their concern with, and depth of, transfer pricing maneuvers by foreign TNCs with subsidiaries in their countries to shift income. Seventy-nine percent believed that foreign TNCs were using transfer pricing maneuvers to affect taxable income, and 85% believe it was a serious problem, as shown in Table 4, Panel A.

Respondents from several countries believe that such income shifting leads to distorted competitiveness between resident and nonresident TNCs, and provides an opportunity for nonresident TNCs to withdraw funds from a country that could otherwise have been used for reinvestment in the country. Many cited the loss of tax revenues through the movement of profits out of their countries as a major problem. One respondent has a strong belief that subsidiaries are underreporting true profits and underpaying taxes through overinvoicing by the nonresident parent TNC but is currently powerless to stop the practice. Other problems include the following:

Table 4. Profit Shifting by Foreign-based TNCs: Extent and Magnitude

Panel A: By GNP per Capita

Extent:	*Low Income*	*Middle Income*	*High Income*	*Totals*	
Extent:					
No/too few TNCs to judge	2	3	5	10	21%
Yes	11	15	11	37	79%
Totals	13	18	16	47	100%
Kruskal–Wallis $p = .4923$.					
Magnitude:					
Not significant problem/ too few TNCs to judge	2	2	3	7	15%
Significant problem	11	16	13	40	85%
Totals	13	18	16	47	100%
Kruskal–Wallis $p = .8249$.					

Panel B: By Tax Haven Classification

	Tax Haven	*Not Tax Haven*	*Totals*	
Extent:				
No/too few TNCs to judge	2	8	10	21%
Yes	5	32	37	79%
Totals	7	40	47	100%
Kruskal–Wallis $p = .6131$.				
Magnitude:				
Not significant problem/ too few TNCs to judge	0	7	7	15%
Significant problem	7	33	40	85%
Totals	7	40	47	100%

Kruskal–Wallis $p = .2353$.

The consequences of profit manipulation are the tax entitlement of the countries in which the end sales to customers occurs is denied; tax authorities become suspicious of all TNC operations; and, manufacturing bases remain remote to the market place. (Pakistan)

Because of our lack of knowledge in the area of transfer pricing, our country has not been able to institute appropriate regulations. (Romania)

It is a major concern as price manipulation seriously affects the tax revenues of host countries. Through the tax evasion by TNCs, the full potential of the host nation's revenue is not realized, and the legal requirements of these countries are undermined. (Solomon Islands)

It results in capital flight and an underpayment of tax, resulting in both shortfalls of government revenue and foreign exchange reserves. Both are vital for a developing country. (South Africa)

A recurrent theme was that unless there are guidelines for transfer pricing, taxable income can be transferred to another tax jurisdiction. Reasonable transfer pricing practices are necessary to protect a country's right to taxation and to prevent the TNC from avoiding that taxation. Many of the suggestions stated are also repeated by respondents as applicable to the nonresident TNC situation. Additional specific suggestions to address transfer pricing manipulations by nonresident TNCs included the following:

There must be full disclosure of transfer pricing policies in the TNC's annual reports, which can then by audited to determine if the declared policy is fair and reasonable, and is being followed. (Bangladesh)

Transfer pricing methods must be standardized regarding free market commodities and services to prevent undesirable adjustments, tax evasion, and hidden unauthorized increases in profit. (Czech Republic)

The OECD transfer pricing report should be adopted. The tax administration should be trained and should gain more experience. (Finland)

Existing law does not sufficiently check transfer pricing maneuvers. The information base needs to be strengthened before we can begin an APA program. (India)

We must develop guidelines and policies to prevent transfer pricing practices which damage tax revenues, and develop smoother exchanges of information with treaty partners. (Indonesia)

Respondents from tax haven countries believed that foreign-TNC income shifting was larger in magnitude than national TNC shifting and were more concerned with this issue, as shown in Panel B. Perhaps respondents in tax havens fear increased surveillance and audits of foreign TNCs by foreign tax authorities, which could be precipitated by income shifting. Such scrutiny could dampen or curtail FDI activity, overriding any benefits of a tax haven.

COMPARISON OF NATIONAL VERSUS NONRESIDENT TNC INCOME SHIFTING

A comparison of the extent of income shifting by home- and foreign-based TNCs yielded significant differences (Tables 3 and 4). Income shifting by foreign-based TNCs was perceived as occurring significantly more often ($p = .0004$) and being significantly larger in magnitude ($p = .0002$) than income shifting by home-based TNCs.

These findings are expected for low-income countries that generally host more subsidiaries of TNCs based in other countries than home-based TNCs. Differences were not

expected for middle-and high-income countries, however. Perhaps these governments believe that existing regulations are more enforceable among home-based TNCs than foreign subsidiaries.

EXTENT OF EXISTING TRANSFER PRICING REGULATIONS

It cannot be automatically assumed that a country's transfer pricing regulations, guidelines, and/or administrative requirements extend beyond the pricing of products and intan-

Table 5. Extent of Transfer Pricing Regulations

Panel A: By GNP per Capita

Are services covered by your country's transfer pricing regulations, guidelines, and/or administrative requirements?

	Low Income	Middle Income	High Income	Totals	
No	6	6	5	17	36%
Yes	6	11	10	27	58%
Did not respond	1	1	1	3	6%
Totals	13	18	16	47	100%

Note: Kruskal–Wallis $p = .6405$.

Panel B: By Tax Haven Classification

	Tax Haven	Not Tax Haven	Totals	
No	3	14	17	36%
Yes	4	23	27	58%
Did not respond	0	3	3	6%
Totals	7	40	47	100%

Note: Kruskal–Wallis $p = .8047$.

Panel A: By GNP per Capita

Are technology transfers covered by your country's transfer pricing regulations, guidelines, and/or administrative requirements?

	Low Income	Middle Income	High Income	Totals	
No	8	11	5	24	51%
Yes	4	6	10	20	43%
Did not respond	1	1	1	3	6%
Totals	13	18	16	47	100%

Note: Kruskal–Wallis $p = .1322$.

Panel B: By Tax Haven Classification

	Tax Haven	Not Tax Haven	Totals	
No	4	20	24	51%
Yes	3	17	20	43%
Did not respond	0	3	3	6%
Totals	7	40	47	100%

Note: Kruskal Wallis p .8817

gibles. As shown in Table 5, more than a third of the countries do not address the pricing of services and more than half disregard technology transfers.

RECOMMENDATIONS

The respondent from Pakistan was eloquent is his plea for a global transfer pricing policy to help his developing country: "A policy on transfer pricing for both products and services should be developed and accepted by all member states of the United Nations. Because most TNCs are based in the industrial world and importing countries are developing economies in the south, inequitable transfer pricing shifts wealth and resources from these developing countries to the industrial north. The transfer pricing policy to be developed and adopted by all member states should take the following issues into account:

Recognize the right of governments of importing countries to question the pricing policies of TNCs.

Ensure that an appropriate taxable profit is posted in the end consumer country, keeping in view the risk/reward criteria that propel multinational investment.

Recognize all taxes paid by the TNC in a host country, including state or local authority taxation and withholding taxes in determining the reward criteria for transfer price fixation.

Recognize the research and development costs of products and services and the necessity of their recovery from product or service sales.

Recognize the relative cost base differentials between countries when determining profit splits between territories on any transfer pricing issues.

Recognize the validity of patents and trademarks, specifically to develop different price fixation criteria for products under patent.

The policy or framework developed in an international forum, possibly composed of revenue service experts and multinational executives, should then be mandatory for all signing states and appropriately supported by existing and future double taxation agreements between member states."

The Pakistani suggestions reflect the sentiments of most respondents, regardless of the economic or tax haven status of their country or their status as a host or home country to a TNC engaging in cross-border transactions.

As long as some countries continue to operate as tax havens, income shifting by TNCs is tacitly encouraged and will continue unabated. Concurrent with globally acceptable standards must be the gradual elimination of tax rate differentials that contribute to income shifting and the inevitable misallocation of tax revenues.

APPENDIX A

Transfer Pricing Questions Included in Survey

Which of the following general transfer pricing methods would best serve your country's tax authorities and the transnational corporations headquartered in your country?

______ Transaction-based methods which apply the arm's length principle ranked in the following order of acceptability: comparable uncontrolled price (CUP), resale price, cost-plus methods

______ Any transaction-based methods which apply the arm's length principle, with no preference as to order of acceptability

______ Any transaction-based methods which apply the arm's length principle, and the profit split method

______ Any transaction-based methods which apply the arm's length principle, and the comparable profits method (CPM)

______ Any of the following: CUP, resale, cost-plus, profit split, CPM

______ Global formulary apportionment method, as an alternative to the arm's length principle

Is the use of transfer pricing manoeuvres by transnational corporations headquartered in your country to and/or from another tax jurisdiction of concern to you?
______ NO ______ YES

Do you consider the matter in the above question to be
______ Significant ______ Not Significant

What do you think can be done about this situation?

Is the use of transfer pricing manoeuvres by foreign transnational corporations with subsidiaries in your country of concern to you? ______ NO ______ YES

Do you consider the matter in the above question to be
______ Significant ______ Not Significant

What do you think can be done about this situation?

Are services covered by your transfer pricing regulations guidelines and/or administrative requirements?

Are technology transfers covered by your transfer pricing regulations, guidelines and/or administrative requirements?

APPENDIX B

Countries with Completed Responses to Survey

Australia
Bangladesh
Belgium
Botswana
Brazil
Bulgaria
Lebanon*
Lesotho
Malawi
Malaysia
Mali
Morocco

Canada
People's Republic of China
Czech Republic
Cyprus*
France
Finland
Ghana
Greece
Grenada*
Hungary
India
Indonesia
Ireland*
Italy
Japan
Hashemite Kingdom of Jordan*
Republic of Korea
Republic of Latvia
The Netherlands
New Zealand
Nigeria
Pakistan
Papua New Guinea
Romania
Singapore*
Slovak Republic
Solomon Islands
South Africa
Republic of Sudan
Sweden
Switzerland*
Tanzania
Thailand
Zambia
Zimbabwe

* Tax haven

NOTES

1. The most recent transfer pricing methods and definitions can be found in U.S. Internal Revenue Service (IRS) Code Sec. 482 (1994), and OECD guidelines (1995, 1996).
2. The interpretation of the data and the opinions expressed in this manuscript are strictly those of the author and do not represent the opinions of UNCTAD.

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An Exploratory Investigation of Industry Specialization of Large Audit Firms

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Key Words: Audit market; Big Six accounting firms; Concentration; Industry specialisation

Abstract: *Studies of the supply side of the audit market generally focus on concentration in the audit industry, often linked with discussions of audit fee level or audit quality. The number of studies that focused on industry specialization is more limited. This paper's primary topic of interest is industry specialization but includes overall concentration as well. Significant overrepresentation of an audit firm in an industry might mean that the firm has developed an audit approach specifically adapted to the industry and gives the audit firm a competitive advantage over other audit firms. Auditor data were collected for 11,611 large companies in 14 countries; both CR4 and a measure for specialization were calculated. The results are that concentration is variable over countries and industries, and presence of Big Six audit firms in specific industries is not consistent over countries. Differences seem to exist between audit firms, however, with respect to their specialist or generalist nature.*

INTRODUCTION

Almost 30 years ago, *The Accounting Review* published Zeff and Fossums' "An Analysis of Large Audit Clients" (Zeff and Fossum, 1967), the first large-scale investigation of the activities of accounting firms. The Zeff and Fossum article was based on the *U.S. Fortune Directory* and presented data on the presence of audit firms in specific industries. It was followed by other studies in the United Kingdom, New Zealand, Australia and Canada and by a replication and update of the Zeff and Fossum study for the United States in 1974 (Rhode, Whitsell and Kelsey, 1974). Subsequent research often focused on the development of appropriate measures for concentration in the audit industry. Two measures often used are concentration ratios and the Herfindahl-index (Moizer, 1992). The first measure calculates the market share of the largest audit firms (e.g., CR4 is the total market share of the four audit firms with the largest individual market shares, CR8 is the same for the eight

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largest firms, etc.). In other contexts, CR4 is reported to score quite well as a measure of concentration (Wiriyawit and Veendorp, 1983). The Herfindahl index is calculated by dividing the sum of the squares of the sales of each firm in the market by the square of the sum of the sales of each firm. Concentration measures can be calculated on different bases: client turnover (Schiff and Fried, 1976; Campbell, 1981; Tonge and Wootton, 1991), square root of client turnover (Dopuch and Simunic, 1980; Eichenseher and Danos, 1981), client net income (Schiff and Fried, 1976; Wootton, Tong and Wolk, 1994), number of clients (Campbell, 1981; Tonge and Wootton, 1991; Wootton, Tong and Wolk, 1994), audit fees (Tomczyck and Read, 1989) or total assets (Schiff and Fried, 1976; Campbell, 1981). Using a different measurement basis results in upward or downward biases of concentration measures (Dopuch and Simunic, 1980; Moizer and Turley, 1987; Tomczyk and Read, 1989). These differences and the use of different databases make it difficult to compare the results of the papers referred to above. However, Eichenseher and Danos (1981) concluded that the choice of concentration index is unlikely to affect inferences regarding auditor concentration, and Beattie and Fearnley (1994) state that the correlation between ratios based on alternative measures is very high. Many of these papers measure concentration at different points in time and consequently discuss whether concentration increases, which it mostly does.

Concentration in the audit market has also been studied for countries other than the United States. Examples include Australia (Gilling and Stanton, 1978), the United Kingdom (Moizer and Turley, 1987; Beattie and Fearnley, 1994), the Netherlands (Langendijk and Deetman, 1990; Buijink and Maijoor, 1993), Denmark (Christiansen and Loft, 1992; Loft and Sjöfors, 1993), Sweden (Loft and Sjöfors, 1993), New Zealand (Johnson, Walker and Wastergaard, 1995) and Belgium (Weets, 1996). Apart from the obvious use of different databases, these studies used several measurement bases, adding to the preceding list of measurement bases number of auditors per audit firm.

Most studies focus on market concentration within the segment of large, often listed companies, and they show that the Big Six audit firms are dominant within this section of the market for audit services. Overall, concentration seems to increase although this tendency might be different from one country to another.

The first research papers included data on specific industries and calculated market shares for individual audit firms within these industries (e.g., Zeff and Fossum, 1967; Rhode, Whitsell and Kelsey, 1974). Eichenseher and Danos (1981) acknowledge the usefulness of these papers to evaluate auditor specialization and industry-specific concentration but note several limitations of these studies. The samples they analyzed remained restricted and make it hard to generalize the findings. Moreover, classification of client firms in industry groups is often difficult. In their paper, they calculated concentration data for an expanded population of 4,900 U.S. client companies in 54 industries. Their overall conclusion was that although concentration ratios are not as high as earlier research had suggested, more than 90 percent of the industries observed appeared to have four or fewer CPA firms receiving at least 50 percent of audit revenues deriving from clients in the industry subject to SEC filings. From testing a model for industry-specific auditor concentration levels, they concluded that auditor concentration was associated with client concentration, new security issuances in the industry and the level of regulatory control within the industry.

This article is an attempt to build on this research. The work referred to earlier showed that the audit of large firms in many United States industries was dominated by one or a few of the (at that time) Big Eight accounting firms. An underlying questions for this paper is whether we would observe similar patterns today and whether such patterns would be similar over a broader range of countries. Both anecdotal evidence from within some large audit firms and research indicate that the large audit firms are harmonizing their audit philosophy and audit approach on a worldwide scale. Differences in audit approach between local offices of the Big Six firms, which existed due to national traditions, seem to be replaced by a more unified approach within each of these firms, enhanced by using common software packages (Christiansen and Loft, 1992; Wallage, 1993).

A combination of a harmonized audit approach within an audit firm and a concentration of audit services in specific industries might mean that audit firms develop an audit methodology that is specifically adapted to the characteristics of certain industries. Specific industry knowledge and audit programs optimized for these industries might result in a competitive advantage over competing audit firms and consequently explain higher market shares. Such specialization might be especially attractive, given the focus on inherent risk analysis and industry knowledge found in the professional literature (e.g., Pomeranz, 1992).

The concepts of a unified audit approach and of specialization raise a number of questions. Although manuals and software of Big Six audit firms provide a unified basis for the development of similar audit programs in all offices of the firm, anecdotal evidence shows that the international manual is quite often supplemented with a local manual because of adaptation to local standards and regulations. More research is needed to establish the extent to which approaches indeed are as harmonized as they might look. Dutch evidence indicates that this might vary from one audit firm to another (Wallage, 1993).

Other questions relate to the specific characteristics of an industry. To make the development of a specific audit approach possible or necessary, the number of companies within the industry should be large enough and the industries must be sufficiently specific. Otherwise, the cost of developing a specific audit approach would be larger than the extra profit that can be generated by such a specialization. A distinction can be made between industries operating under a specific regulation and industries that only have to apply the general accounting regulations. In Europe, e.g., financial institutions and insurance companies generally have an accounting and auditing regulation that is different from the general regulation. In terms of continental European accounting regulation, such companies have a specific accounting law. The auditors of such companies generally must obtain a specific recognition by supervising authorities, which results almost automatically in specialization at the level of the individual auditor. On the level of the audit firm, one might observe firms that are absent from these regulated industries, that audit banks and the like only accidentally, and that are strongly represented in the regulated industries. If the last case is consistent within a broader geographic area, this might mean that the audit firm involved has developed a specialized approach to the audit of such companies.

Banks and insurance companies must adhere to specific regulation in most countries. Industries other than those with such an overall specific regulation are harder to discuss. Some industries in specific countries might be regulated but must only submit to the general regulation in others. Specific regulations might be included in accounting law or in accounting standards, or the accounting regulation might be sufficiently broad to accept a wide range of practices. Apart from accounting, business practices and problems might be

sufficiently divergent to make it necessary to use a specific audit approach. In such cases specialization might be worthwhile.

In the United States, the American Institute of Certified Public Accountants (AICPA) published specific audit guidelines for oil and gas, airlines, security dealers, finance companies, and others(AICPA, 1973, 1977, 1981, 1986). Also for the United States, Danos and Eichenseher (1982) considered (among other industries) railroad transportation, trucking, air transportation, telephone communication, broadcasting, insurance, brokers, and savings and loan holding companies as regulated companies. Such classification, however, is probably not to be generalized over a wider group of countries.

Craswell and Taylor (1991) studied industry specialization of Australian auditors. They distinguished industry specialist auditors from nonspecialist auditors and defined industries as having specialist auditors if the industry had 30 or more observations and if one or more individual accounting firms had a market share greater than or equal to 10 percent. Consequently, auditors with as few as three clients in one industry were already considered specialist auditors. Craswell, Francis and Tayler (1995) confirm that the 10 percent rule was arbitrary and show that applying a 20 percent market share rule had a material impact on the results of their research. Because any market share rule would remain arbitrary, the following sections of this paper define specialization in a different way.

RESEARCH DESIGN

The basic question in this paper is whether we find evidence of audit firm specialization in specific industries. Specialization of auditors would result in an overrepresentation of a given firm in a given industry and, consequently, underrepresentation in other industries. The paper looks at this question for a rather broad range of countries, focusing on Europe but also including in the analysis the United States and Japan. The paper also includes a discussion of auditor concentration for the industries and companies included.

A problem for this type of analysis is the availability of data on both client companies and audit firms for a broad range of countries. For this paper, the data on companies and audit firms were taken from CIFAR's *Global Register of the Leading International Accounting Firms* (Bavishi, 1995) which presents (among other data on international accounting firms) lists of audit clients worldwide. This study uses section G of the register, Global Listing of Audit Clients by Industry and Accounting Firm. The *Global Register* includes a very large number of countries and companies, but the presentation of the work suffers from insufficient data on selection and classification criteria. The identification of auditors' affiliation to international networks is said to have been based on the international office directories of the 28 audit firms included. The directories were mostly for 1994, with two directories for 1993 and six for 1995. The audit client data were taken from CIFAR's database which includes approximately 40,000 companies worldwide. The selection for inclusion in the section G depended on the sales figure for industrial and trading companies and on the total assets figure for the financial, transportation, utilities and services companies. The size criteria seem to have been different for "large industrial countries" and "smaller industrial countries" (Bavishi, 1995, p. VI). Unfortunately, the register does not clarify which thresholds have been used for inclusion in section G, nor does it clarify which fiscal year the data related to; based on other information in the register, however, 1993 or 1994 data must have been used in most cases. Section G includes

fewer companies than sections E or F, which are other listings of audit clients. One can at least conclude that section G includes all larger audit clients because this is confirmed on page 807 of the register, but without referring to specific figures. Because the section still included data on a quite large number of companies and because its structure was easier to use for analysis than that of the other sections, it was decided to use it for this paper. The paper also uses the industry classification suggested by CIFAR.

This study focuses on Europe. Countries included are the Benelux countries (Belgium, the Netherlands, and Luxemburg), Germany, France, Italy, Scandinavia (Sweden, Norway, Denmark, and Finland), Spain, and the United Kingdom. Benelux and Scandinavia were taken together to have a sufficient number of companies to analyze. To be able to put the European situation in perspective, data on the United States and on Japan were also included.

Table 1 shows the audit firms or networks of accounting firms that were included in the lists, and table 2 shows the industry classification used by CIFAR. To the audit firms men-

Table 1. Audit Firms Included in the CIFAR Database

Arthur Andersen (AA)	HLB International (HLB)
ACPA International (ACPA)	Independent Accountants International (IAI)
Accounting Firms Associated (AFA)	International Group of Accounting Firms (IGAF)
Associated Regional Accounting Firms (ARAF)	Jeffreys Henry International (JHI)
BDO Binder (BDO)	Klynveld Peat Marwick Goerdeler (KPMG)
BKR International (BKR)	Midsnell International (MI)
Clark Kenneth Leventhal (CKL)	Moores Rowland International (MRI)
Coopers and Lybrand (CL)	Moore Stephens (MS)
DFK International (DFK)	Nexia International (NI)
Deloitte Touche Tohmatsu (DTT)	Pannell Kerr Forster (PKF)
Ernst and Young (EY)	Price Waterhouse (PW)
GMN International (GMN)	RSM International (RSM)
Grant Thornton International (GTI)	Summit International (SIA)
Horwath International (HI)	TGI International (TGI)

Table 2. Industry Classification Used in Database

Automotive and aerospace	Insurance
Banks	Metal manufacturing and metal products
Building materials	Mining and petroleum
Chemicals	Paper and wood
Computers	Pharmaceuticals and cosmetics
Construction	Publishing and broadcasting
Electrical equipment	Retailing and trading
Electronics	Services (various)
Equipment industrial/farm	Telecommunication
Financial services and brokerage	Textiles and apparels
Food and beverages	Transportation
Holdings	Utilities
Hotels and Airlines	

tioned, a category "nonaffiliated firms" was added to include all auditors that did not belong to one of the 28 audit firms from Table 1.

Table 3 shows the number of companies that was included in the study. About 36 percent of the sample companies were United States companies, 47 percent are of European origin and 17 percent were Japanese. On the industry level, banks and retailers were very well represented.

Because this study deals with industry-specific concentration and specialization of audit firms, two measures were calculated for each of these industries / countries / audit firms. For the study of concentration, CR4 was calculated. Most of the client companies included in the sample were large firms audited by Big Six auditors, as data in Table 4 indicate. CR4 in this study should not be interpreted as the CR4 for the entire industry discussed but only for the companies included in the sample. As Table 3 shows, this number was very low for some cases. The concentration measure is calculated on the basis of the number of client firms and would obviously be lower if more firms would be included. As Dopuch and Simunic (1980) state, concentration ratios based on the largest buyers yield upward-biased concentration ratios. On the other hand, concentration measures based on number of audits performed are biased downward (Tomczyk and Read, 1989). These conflicting biases make it difficult to interpret the results of the calculated CR4s or to compare with

Table 3. Number of Companies Included

	Benel	*Germ*	*Franc*	*Italy*	*Scan*	*Spain*	*UK*	*US*	*Japan*	*Total*
Auto	20	34	48	14	31	12	67	119	94	439
Bank	155	125	200	119	91	46	105	659	134	1634
Build	8	12	32	8	15	7	32	33	62	209
Che	26	40	33	10	31	5	89	158	145	537
Com	4	6	8	3	5	1	25	58	4	114
Cons	19	22	51	9	57	13	94	123	163	551
Elec	7	24	37	3	11	2	44	65	84	277
Eltro	15	26	27	4	32	1	99	289	162	655
Food	30	34	98	17	76	15	135	194	107	706
Hold	38	8	138	16	23	2	116	106	0	447
Hotel	3	2	22	3	9	2	15	63	13	132
Equi	15	68	30	11	40	3	69	137	161	534
Insu	30	71	75	20	47	3	51	165	27	489
Finl	19	13	56	12	30	6	105	106	68	415
Metal	20	44	58	11	34	7	55	161	161	551
Min	13	22	44	9	42	6	54	127	28	345
Paper	10	15	41	4	37	6	34	114	47	308
Phar	2	16	27	7	15	1	33	64	54	219
Publ	9	3	28	10	15	0	49	119	20	253
Retai	43	43	101	5	93	1	195	690	278	1449
Telec	1	1	6	3	9	2	2	29	3	56
Texti	5	31	26	14	9	1	55	127	91	359
Trans	10	6	29	3	43	3	17	46	73	230
Util	12	52	22	8	22	3	33	220	18	390
Serv	11	7	34	0	19	0	35	156	50	312
Total	525	725	1271	323	836	148	1608	4128	2047	11611

other studies. A more prudent approach would be to use only CR4s reported in this study for comparison between industries and countries as they are included in this paper.

The other research question focuses on the individual audit firm level and asks whether audit firms specialize in specific industries. An analysis was made of the relative "over-representation" of specific firms in specific industries. For each country, a spreadsheet listed the number of client companies per industry and per audit firm. In a subsequent step, we calculated the number of clients that each audit firm would have had in each industry if all audit jobs had been distributed in a homogeneous way. Any specialization of auditors would have resulted in differences between the real number of jobs in a specific industry (R) and the "normal" number of jobs (N).

The "normal" figure was obtained by dividing the total number of audits for each audit firm in a given country by the total number of companies included for that country and multiplying this with the number of companies for a given industry. Finally, the real figure was divided by the "normal" figure in the following way:

$$D = (R / N) \times 100 - 100$$

The result of this calculation is that audit firms that are relatively overrepresented in an industry show a positive figure; those that are underrepresented show a negative figure. The value becomes zero if there is a perfect match between real and calculated figure. It becomes -100 if the audit firm is not present in a given industry.

The calculation was made for all countries, companies, and audit firms listed in Tables 1 to 3.

ANALYSIS

Although calculations were made for all audit firms listed in Table 1, further analysis focuses on the Big Six auditing firms. Because the CIFAR list included companies selected according to size criteria, it is not surprising to find that most of these firms were audited by Big Six auditors. Table 4 summarizes this for the entire sample.

The International Accounting Bulletin (1995) shows worldwide fee data for 40 audit firms and ranks A. Andersen (AA) first, followed by (in order) by KPMG, Ernst and Young (EY), Coopers and Lybrand (CL), Deloitte Touche Tohmatsu (DTT), and Price Waterhouse (PW) (1994 data).

Table 4. Numbers of Audited Companies, Full Sample

Total number of companies	11611	(100 %)
A. Andersen clients	1576	(13.5 %)
Coopers and Lybrand clients	1627	(14.0 %)
DTT clients	1438	(12.4 %)
Ernst and Young clients	1731	(14.9 %)
KPMG clients	2017	(17.4 %)
Price Waterhouse clients	1096	(9.4 %)
Other Table 1 clients	737	(6.3 %)
Nonaffiliated auditors' clients	1389	(12.0 %)

The only second tier auditors having more than 100 clients worldwide included in this study were BDO and Grant Thornton International. This is consistent with the *International Accounting Bulletin's* ranking.

For the European countries that were included, Arthur Andersen held 9.6 percent of the jobs, Coopers and Lybrand 14.9 percent, DTT 8.9 percent, Ernst and Young 13.2 percent, KPMG 20.5 percent and Price Waterhouse 11 percent. Comparative figures for United States and Japan are : AA 17.3 percent and 16.4 percent, CL 11.7 percent and 16.2 percent, DTT 15.6 percent and 15.3 percent, EY 17.9 percent and 13.3 percent, KPMG 17.5 percent and 8.7 percent and PW 10.6 percent and 3 percent. Other table 1 firms were only 5.6 percent in the United States and 0.6 percent in Japan.

The share of nonaffiliated audit firms varied between countries. It was particularly high in Japan (26.5 percent) and in France (32 percent), but the German sample was also audited by a relatively large number of independent audit firms (16.8 percent). Benelux (8.6 percent) and Scandinavia (7.5 percent) show a stronger dominance of Big Six audit firms in this sample of large audit clients. Non-affiliated firms were rather absent from the sample in Italy (0.9 percent), the United Kingdom (3 percent), Spain (3.4 percent) and the United States (3.7 percent).

DISCUSSION OF AUDITOR CONCENTRATION

The CR4 was calculated on the basis of the total number of companies for each industry and for each country in the sample. Results are obviously more relevant if a larger number of companies is included or on more aggregate levels. CR4 was not calculated for industries and countries with no more than four companies included. The overall CR4 for each of the countries is included in Table 5.

Studies using the number of client firms or the number of audits report CR4 for the United States to be .65 (1991 data, Wootton, Tong, and Wolk, 1994), for the United Kingdom .59 (1991 data, Beattie and Fearnley, 1994), for the Netherlands .84 (Langendijk and Deetman, 1990).

Table 5. CR4 for Countries Included in the Study with Standard Deviation Across Industries

Country	*CR4*	*StDev*
Benelux	.79	.27
Germany	.69	.22
France	.39	.09
Italy	.75	.23
Scandinavia	.73	.13
Spain	.83	.38
United Kingdom	.73	.09
Europe	.60	.05
United States	.75	.11
Japan.	.61	.04
All countries	.60	.05

Comparisons with these results are not easy because of the use of different databases. The ratios in table 5 relate to auditor concentration in the large companies in each country studied (Table 3 specifies the numbers included). Wootton, Tong, and Wolk (1994) used data on 5,777 New York Stock Exchange (NYSE), American Exchange (AMEX) or over-the-counter traded companies (fiscal year ends 1991), and Beattie and Fearnley (1994) based their calculations on a sample of 2,079 United Kingdom listed companies.

This study shows high concentration ratios for the Benelux, Italy, Scandinavia, Spain, the United Kingdom and the United States. For Italy and Spain, results might be distorted because of the low number of included companies. France shows the lowest concentration ratios, apparently related to the weaker position of the large international audit firms.

To determine whether concentration would be similar across industries within the same country, the standard deviation of the CR4s of these industries was calculated (the country CR4 is not the mean of the industry CR4s but was calculated based on the number of audit clients for the four largest firms). Concentration was quite variable among industries in Benelux, Germany, Italy, and Spain but rather stable in France and the United Kingdom. This means that all French industries show a comparably low concentration and that all United Kingdom industries show a much higher concentration ratio. This is confirmed in the Appendix, which includes the CR4s for the industries in each country. The overall standard deviation for Europe and Japan is much lower than that for the United States suggesting that intra-European differences cancel each other to a large extent.

Table 6 lists the industries in descending order of concentration for the entire sample. The worldwide CR4s for the companies included in this study are quite variable across industries, ranging from .55 to .75 and an average value of .60. The computer industry seems to be most concentrated, which might be explained partly by the rather limited number of companies included in the sample (114). By far the industries with the largest representation in the sample (banks and retailing, with 1,634 and 1,449 companies respectively) show CR4s of .65 and .59, respectively. Variability of industry CR4s over countries is also significant for some industries, with standarddeviations ranging from .12 to .33. Highest standard deviations are found for the computer, telecommunications, and paper and wood industries.

DISCUSSION OF AUDITOR SPECIALIZATION

The appendix shows the major results of the difference analysis for the Big Six audit firms for all countries studied. The figures give a measure for over- or underrepresentation of Big Six auditors for each country and each industry.

Considering all companies included in the analysis, overrepresentation of Big Six audit firms in specific industries seems limited. Individual countries, however, sometimes show strong overrepresentation, suggesting possible specialization within regional limits.

The industries showing most impact of auditor overrepresentation are the computer and telecommunications industry. Although nowhere above 100, the worldwide data show the strongest overrepresentation for Ernst and Young in the automobile and computer industries; KPMG in banks and insurance companies; Price Waterhouse in computers, mining, and telecommunications; Arthur Andersen in hotels, telecommunications, and utilities; and Coopers and Lybrand in telecommunications.

Table 6. Industry CR4s, All Companies Included with Standard Deviation over Countries (Rounded Values)

Computers	.75	.27
Insurance	.70	.17
Telecommunication	.70	.33
Utilities	.70	.13
Mining and petroleum	.69	.14
Services (various)	.66	.13
Banks	.65	.13
Electronics	.65	.24
Hotels and airlines	.65	.23
Automotive and aerospace	.64	.15
Transportation	.64	.20
Chemicals	.61	.12
Metal manufacturing and products	.61	.18
Publishing and broadcasting	.61	.24
Pharmaceuticals and cosmetics	.61	.21
Building materials	.59	.17
Equipment industrial/farm	.59	.14
Financial services	.59	.19
Retail and trading	.59	.23
Paper and wood	.58	.29
Construction	.57	.15
Electrical equipments	.57	.24
Food and beverages	.57	.17
Textiles and apparels	.57	.25
Holdings	.55	.17

The European data show the highest overrepresentation figures for the computer industry and telecommunications (both Price Waterhouse). All other European figures are below 100.

Comparing United States and European data, some auditors show similar results. An example is Ernst and Young in the automotive and aerospace industry (+ 55 and + 51, respectively) . Most figures, however, seem quite unrelated and some show rather opposing tendencies, (e.g., very high positive values in the United States and negative values in Europe). The same is true if comparisons are made between individual countries.

In an attempt to express audit firm specialization in one figure, the absolute values of all calculated differences were added for all countries and all industries for each of the firms. Absolute values were taken to avoid cancelations and because it can be argued that both overrepresentation and underrepresentation in specific industries are proof of specialization. This gives the first column in Table 7. In these figures, absence from an industry was given a zero value because absence from industries might be as much related to the relative size of the audit firm as to specialization. To measure the impact of this omission, however, a second series of figures includes all absolute values, with absence assigned a

Table 7. Overall Scores of Big Six Audit Firms

Arthur Andersen	8432 (4)	14132 (4)	6381 (3)
Coopers and Lybrand	10551 (2)	14551 (2)	8467 (2)
Deloitte Touche Tohmatsu	8607 (3)	14507 (3)	6140 (4)
Ernst and Young	7882 (5)	11882 (5)	5695 (5)
KPMG	6550 (6)	10750 (6)	3939 (6)
Price Waterhouse	16196 (1)	21696 (1)	14320 (1)

100 score. Finally, it might also be argued that only overrepresentation should be included in the calculation; this is given in the third column of results (see Table 7).

All calculations in Table 7 show the same ranking, except the third column for the third and fourth position, which are reversed. Price Waterhouse seems to be the most specialized audit firm, followed by Coopers and Lybrand. KPMG is the most "general" Big Six audit firm, rather close to Ernst and Young.

CONCLUSIONS

The purpose of the study reported in this article was to consider two related aspects of the supply side of the audit market in an international perspective. Using the CR4 measure of concentration, comparisons of the importance of the largest audit firms in different industries in different countries were made. At the audit firm level, a measure of auditor specialization was developed based on a comparison between effective market shares and expected market shares.

Calculations were made for 11,611 large client companies in 14 countries and 25 industries. Due to the large number of industries and countries, the number of companies was sometimes limited, as is shown in Table 3. Companies were taken from one database that unfortunately did not systematically disclose its selection criteria. For these reasons, the CR4s reported in this paper are difficult to compare with those found in the literature.

The analysis of concentration shows that overall concentration is higher in the United States than in Europe or Japan. The European figure seems heavily influenced by the low concentration ratio in France because all other European countries included here show CR4s that are comparable to these for the United States (only Germany is slightly lower). The low French figure is also not very variable over industries. Aggregate industry figures show strong differences with respect to concentration, ranging between .75 and .55. Variability within industries is also quite diverging.

Based on the data in this paper, no evidence suggests that large audit firms show a global pattern of strong presence in specific industries, which might be related to the development of an in-depth industry knowledge or an audit approach that is adapted to a limited number of industries. All Big Six firms are present in all industries and, on the basis of the aggregate data, overrepresentation of firms is limited. The only worldwide overrepresentation figure above the two-digit level is Price Waterhouse in the computer industry. This image of Price Waterhouse as the overall most specialized audit firm is confirmed by other calculations in this paper. Data for individual countries show stronger overrepresentation of audit firms, suggesting possible specialization within regional boundaries. Strongest overrepresentation, however, is in industries for which a rather low number of companies was included. If the analysis is limited to those industries/countries

with more than 100 companies included, the only cases with a three-digit overrepresentation figure are United States banks (KPMG) and United States utilities (A. Andersen).

Local specialization might mean that international audit firms are less harmonized worldwide than might be expected based on their international training programs or manuals. In such a context, local approaches for specific industries could result in specializations that are not consistent over a broader geographical area. Alternatively, it is also possible that all Big Six audit firms use similar audit approaches and have comparable industry knowledge within their audit teams. In that case, there would be no competitive advantage for any firm, and auditor choices would become more or less "random."

Further research will be necessary to determine whether local branches of international audit firms develop specific knowledge bases that are not transferred to other parts of the international network. The approach in this paper could be extended to in-depth analyses of a more limited number of industries, using other databases to obtain information about larger samples of client companies, or perhaps even complete industries. Combined with data on audit approaches and client knowledge present in audit firms, such analysis might give additional insight to the supply side of the audit market.

Appendix

Specialization Measures for Big Six Firms in Individual Countries/Industries, with Idustry CR4 Concentration Measure.

Benelux

	AA	*CL*	*DTT*	*EY*	*KPMG*	*PW*	*CR4*
Auto	38.16	40.00	-100.00	26.20	13.43	-100.00	0.85
Banks	24.79	-59.35	55.24	-34.86	10.81	12.90	0.74
Build	-100.00	250.00	-100.00	-36.90	-100.00	386.11	0.88
Chem	-100.00	7.69	-43.91	-41.75	-12.75	49.57	0.62
Comp	-100.00	75.00	-100.00	-100.00	62.04	-100.00	0.25
Cons	190.86	10.53	53.51	-46.86	2.34	-100.00	0.79
Elec	-100.00	-100.00	4.17	-27.88	38.89	-100.00	0.29
Eltron	84.21	133.33	-51.39	-32.69	8.02	29.63	0.87
Equip	-100.00	-6.67	45.83	34.62	-56.79	159.26	0.73
Finl	190.86	47.37	-61.62	85.98	-31.77	-100.00	0.89
Food	84.21	63.33	-75.69	51.44	-2.78	-35.19	0.90
Holding	-27.29	-7.89	-4.06	-7.01	-6.19	2.34	0.74
Hotel	-100.00	-100.00	-100.00	68.27	116.05	-100.00	NA
Insur	-7.89	-6.67	-2.78	17.79	8.02	-35.19	0.83
Metal	38.16	-65.00	-27.08	26.20	13.43	191.67	0.85
Mining	-100.00	-100.00	68.27	16.49	-0.28	-100.00	0.78
Paper	176.32	-30.00	-100.00	51.44	29.63	-100.00	0.90
Pharm	-100.00	250.00	-100.00	-100.00	62.04	-100.00	NA
Publ	-1000.00	55.56	-18.98	124.36	-27.98	-100.00	1.00
Retail	-100.00	46.51	35.66	5.66	-9.56	-54.78	0.88
Serv	-100.00	281.82	-100.00	83.57	-100.00	-100.00	0.91
Telecom	-100.00	-100.00	-100.00	-100.00	-100.00	1844.44	NA
Texti	-100.00	-100.00	45.83	0.96	94.44	-100.00	0.40
Transp	-100.00	-100.00	-100.00	0.96	94.44	94.44	0.20
Utilit	-100.00	75.00	21.53	68.27	-45.99	62.04	0.92

(continued)

Appendix (Cont.)

Germany	*AA*	*CL*	*DTT*	*EY*	*MI*	*PW*	*CR4*
Auto	-100.00	58.93	-46.69	128.47	5.74	18.46	0.91
Banks	-44.76	40.50	1.50	-68.93	-23.31	28.89	0.66
Build	-100.00	50.10	202.08	-100.00	24.83	235.65	1.00
Chem	-100.00	-9.94	35.94	61.83	19.83	202.08	0.80
Comp	-100.00	-24.95	202.08	-100.00	49.79	571.30	0.33
Cons	-100.00	22.81	-100.00	-41.15	-18.29	-100.00	0.59
Elec	475.40	-24.95	-24.48	61.83	12.35	-100.00	0.83
Eltron	431.14	-48.04	-100.00	49.38	-7.82	209.83	0.69
Equip	52.31	-33.78	86.58	-23.84	-11.89	-40.77	0.60
Finl	-100.00	73.20	-100.00	-100.00	15.23	-100.00	0.38
Food	103.08	-47.02	113.24	-61.92	-3.07	-100.00	0.62
Holding	-100.00	-43.71	353.13	-100.00	49.79	-100.00	0.88
Hotel	-100.00	125.16	-100.00	-100.00	-100.00	-100.00	NA
Insur	-100.00	-55.60	78.70	-81.77	68.78	-100.00	0.77
Metal	292.32	22.81	-58.81	-70.58	15.75	-8.46	0.88
Mining	-100.00	22.81	-17.61	194.24	-45.53	449.24	0.82
Paper	-100.00	-100.00	-100.00	-13.69	-60.06	168.52	0.70
Pharm	-100.00	-15.57	126.56	61.83	-25.10	-100.00	0.69
Publ	-100.00	50.10	-100.00	-100.00	-0.14	-100.00	NA
Retail	-19.71	15.20	-57.85	-9.68	11.47	-100.00	0.72
Serv	-100.00	157.32	-100.00	-100.00	-100.00	-100.00	0.57
Telecom	-100.00	350.31	-100.00	-100.00	-100.00	-100.00	NA
Texti	-100.00	-70.95	-100.00	317.63	6.30	-100.00	0.74
Transp	-100.00	50.10	-100.00	547.32	-100.00	-100.00	0.83
Utilit	-100.00	21.24	-100.00	-0.41	-7.82	-100.00	0.65

France	*AA*	*CL*	*DTT*	*EY*	*KPMG*	*PW*	*CR4*
Auto	14.30	-32.10	13.89	147.47	-100.00	-12.32	0.52
Banks	9.73	22.21	9.33	0.97	20.66	34.68	0.45
Build	-14.28	1.84	28.13	11.36	151.38	-47.39	0.44
Chem	10.83	48.14	-58.59	43.98	-51.25	78.55	0.55
Comp	-100.00	103.69	70.83	-100.00	-100.00	5.22	0.25
Cons	61.36	-68.05	7.19	-6.84	-36.91	15.53	0.47
Elec	48.28	-55.96	47.75	-100.00	30.45	-31.75	0.43
Eltron	170.93	20.70	1.23	-100.00	138.35	-68.83	0.59
Equip	-39.04	117.26	82.22	58.38	-46.37	-43.89	0.47
Finl	-18.36	-12.71	-75.60	6.06	14.92	50.31	0.43
Food	-34.69	-16.86	11.56	-39.40	-1.50	-31.29	0.30
Holding	-33.74	-40.96	-50.48	29.11	16.58	-2.41	0.37
Hotel	-58.44	-25.93	148.48	61.98	-100.00	-23.48	0.45
Insur	-75.62	30.36	-63.56	10.87	-14.19	34.68	0.39
Metal	41.89	-71.91	-29.31	-59.04	-44.52	16.10	0.38
Mining	-16.87	122.20	-37.88	88.98	-26.87	14.78	0.52
Paper	-33.09	58.97	100.00	-13.08	-21.52	23.18	0.46
Pharm	-32.27	201.76	102.47	31.98	-40.41	-6.48	0.56
Publ	63.28	-41.80	-100.00	-100.00	72.38	-69.94	0.21
Retail	-9.47	-19.33	8.25	-29.43	59.29	-16.66	0.38
Serv	88.26	43.78	60.78	4.81	-5.36	-75.24	0.50
Telecom	52.40	-100.00	-100.00	97.98	-100.00	40.29	0.33
Texti	40.68	25.35	-47.44	-54.31	23.76	-2.88	0.42

(continued)

Appendix (Cont.)

France

	AA	*CL*	*DTT*	*EY*	*KPMG*	*PW*	*CR4*
Transp	-36.94	-100.00	88.51	-59.04	-100.00	16.10	0.38
Utilit	107.82	-100.00	24.24	61.98	-100.00	-100.00	0.45
Auto	-49.29	163.67	-100.00	77.47	-100.00	56.42	1.00
Banks	1.41	-37.96	21.43	25.27	39.19	-35.59	0.80
Build	-11.26	130.71	-100.00	-100.00	- 100.00	173.73	0.50
Chem	-64.51	84.57	70.00	-100.00	65.64	9.49	0.50
Comp	-100.00	207.62	183.33	-100.00	-100.00	82.49	NA
Cons	-21.12	310.16	-5.56	-100.00	84.05	-100.00	NA
Elec	18.32	-100.00	-100.00	-100.00	-100.00	82.49	0.33
Eltron	-11.26	130.71	-100.00	-100.00	-100.00	36.86	0.50
Equip	61.34	-100.00	-100.00	69.41	-100.00	49.31	1.00
Finl	18.32	-23.10	-29.17	3.53	-30.98	36.86	0.83
Food	46.15	-100.00	-50.00	-26.92	-51.28	61.02	0.88
Holding	33.10	-100.00	59.38	-22.36	3.53	2.65	0.88
Hotel	-100.00	-100.00	183.33	-100.00	-100.00	264.97	0.33
Insur	6.48	38.43	-15.00	55.29	-58.59	-17.88	0.85
Metal	61.34	-100.00	131.82	12.94	-24.71	-100.00	1.00
Mining	18.32	-100.00	-5.56	-30.98	-7.98	-39.17	0.56
Paper	-100.00	-100.00	-100.00	55.29	-100.00	310.59	0.25
Pharm	-100.00	163.67	21.43	-11.26	254.95	-100.00	0.57
Publ	-29.01	84.57	155.00	-100.00	-17.18	9.49	0.70
Retail	-100.00	-100.00	-100.00	24.23	65.64	228.47	0.20
Serv	NA	NA	NA	NA	NA	NA	NA
Telecom	18.32	207.62	-100.00	-100.00	176.07	-100.00	NA
Texti	52.12	31.84	-100.00	-11.26	18.32	-60.90	0.86
Transp	-100.00	515.24	-100.00	-100.00	-100.00	82.49	NA
Utilit	33.10	-100.00	6.25	55.29	-100.00	36.86	0.75

Scandinavia

	AA	*CL*	*DTT*	*EY*	*KPMG*	*PW*	*CR4*
Auto	26.41	6.45	-73.56	78.46	-38.99	-100.00	0.74
Banks	-56.94	39.01	17.09	-12.18	-25.18	-14.54	0.74
Build	-100.00	-100.00	-45.36	63.92	0.87	288.84	0.80
Chem	-15.73	6.45	-47.12	18.98	22.03	25.43	0.77
Comp	-100.00	-100.00	63.92	22.94	-24.34	677.67	0.40
Cons	-31.25	6.14	-56.86	18.63	6.18	36.43	0.74
Elec	137.50	0.00	-35.49	67.65	3.17	-100.00	0.91
Eltron	22.46	20.31	-23.16	-23.16	-29.07	143.02	0.66
Equip	-2.03	-3.75	2.45	-23.16	32.40	-2.79	0.78
Finl	-56.46	28.33	118.56	-38.53	-36.95	-35.19	0.77
Food	-14.06	-42.11	50.98	-51.47	29.41	-23.26	0.71
Holding	-100.00	43.48	42.54	33.63	-50.66	-15.47	0.78
Hotel	45.14	-38.89	82.14	-31.70	68.12	-100.00	0.56
Insur	-100.00	-76.60	109.26	-8.45	44.87	106.83	0.89
Metal	130.51	45.59	-100.00	26.56	0.13	-100.00	0.91
Mining	86.61	-47.62	-80.49	60.99	17.09	85.16	0.81
Paper	41.22	18.92	-77.85	16.30	12.46	5.09	0.81
Pharm	-12.92	-26.67	9.28	22.94	0.87	29.61	0.73
Publ	-12.92	46.67	63.92	-18.04	-24.34	-100.00	0.80
Retail	-15.73	18.28	14.57	-14.07	-6.45	-100.00	0.74

(continued)

Appendix (Cont.)

Scandinavia

	AA	*CL*	*DTT*	*EY*	*KPMG*	*PW*	*CR4*
Serv	106.25	-42.11	-13.73	-35.29	39.37	2.33	0.74
Telecom	-100.00	-100.00	173.20	-31.70	-57.97	548.06	0.44
Texti	45.14	22.22	-100.00	36.60	-57.97	-100.00	0.56
Transp	173.40	27.91	-61.88	-14.23	14.36	-100.00	0.88
Utilit	-40.63	25.00	86.27	11.76	-48.42	-11.63	0.77

Spain

	AA	*CL*	*DTT*	*EY*	*KPMG*	*PW*	*CR4*
Auto	-56.73	242.59	-100.00	76.19	2.78	-54.32	0.92
Banks	29.82	-100.00	-35.65	-8.07	-19.57	43.00	0.96
Build	11.28	-100.00	322.86	-100.00	76.19	56.61	0.57
Chem	-48.07	228.89	-100.00	40.95	146.67	-100.00	0.80
Comp	-100.00	-100.00	-100.00	-100.00	-100.00	448.15	NA
Cons	59.78	-100.00	-100.00	-100.00	279.49	-57.83	1.00
Elec	29.82	311.11	-100.00	-100.00	-100.00	-100.00	NA
Eltron	-100.00	-100.00	-100.00	-100.00	-100.00	448.15	NA
Equip	-100.00	174.07	-100.00	134.92	-100.00	82.72	NA
Finl	-56.73	37.04	-100.00	-100.00	-100.00	-8.64	0.33
Food	-82.69	174.07	97.33	40.95	64.44	-26.91	0.80
Holding	159.65	-100.00	-100.00	-100.00	-100.00	-100.00	NA
Hotel	159.65	-100.00	-100.00	-100.00	-100.00	-100.00	NA
Insur	-100.00	174.07	-100.00	134.92	-100.00	82.72	NA
Metal	48.37	-100.00	322.86	0.68	-100.00	-21.69	0.86
Mining	73.10	-100.00	-100.00	134.92	-100.00	-100.00	1.00
Paper	-13.45	174.07	393.33	17.46	-100.00	-100.00	1.00
Pharm	-100.00	-100.00	-100.00	-100.00	-100.00	-100.00	NA
Publ	NA	NA	NA	NA	NA	NA	NA
Retail	159.65	-100.00	-100.00	-100.00	-100.00	-100.00	NA
Serv	NA	NA	NA	NA	NA	NA	NA
Telecom	-100.00	-100.00	-100.00	-100.00	-100.00	174.07	NA
Texti	-100.00	-100.00	-100.00	-100.00	-100.00	-100.00	NA
Transp	73.10	-100.00	-100.00	-100.00	-100.00	82.72	NA
Utilit	-100.00	-100.00	-100.00	369.84	-100.00	82.72	NA

United Kingdom

	AA	*CL*	*DTT*	*EY*	*KPMG*	*PW*	*CR4*
Auto	-27.82	6.48	8.27	-20.99	33.33	-38.46	0.72
Banks	-7.88	4.53	-7.88	19.74	53.14	38.29	0.82
Build	51.13	2.90	-62.22	3.40	-30.21	28.85	0.72
Chem	-4.91	-13.67	-4.91	4.09	10.41	25.74	0.78
Comp	45.08	53.67	93.44	5.88	-82.13	41.36	0.84
Cons	28.62	-12.42	54.34	-50.72	4.54	-43.61	0.63
Elec	9.91	-87.53	37.39	65.43	-18.79	20.48	0.75
Eltron	34.34	-39.02	22.12	33.68	3.77	1.14	0.72
Equip	22.65	11.35	57.70	-42.46	10.05	2.44	0.75
Finl	-19.40	-0.69	15.15	-30.68	6.35	-15.86	0.67
Food	-28.35	9.76	-46.27	32.35	-4.05	4.71	0.79
Holding	-68.73	18.28	-68.73	65.43	-30.69	6.63	0.80
Hotel	141.80	46.35	-100.00	-55.88	-40.44	57.07	0.87

(continued)

Appendix (Cont.)

United Kingdom

	AA	CL	DTT	EY	KPMG	PW	CR4
Insur	-76.29	39.89	-100.00	29.75	13.86	27.04	0.92
Metal	-56.04	9.76	31.89	-63.91	38.06	-3.62	0.78
Mining	79.11	-59.35	-32.83	34.80	-0.74	52.71	0.83
Paper	-100.00	12.99	42.24	16.78	31.37	-13.38	0.88
Pharm	46.55	-0.22	46.55	0.26	-32.32	-10.76	0.64
Publ	72.72	45.60	-50.65	-18.97	-27.07	-15.86	0.71
Retail	17.80	-1.50	30.20	-8.38	-17.54	-9.38	0.66
Serv	3.63	9.76	-30.91	-5.47	27.62	-15.86	0.77
Telecom	-100.00	174.40	-100.00	-100.00	123.33	-100.00	NA
Texti	9.91	-40.13	-12.07	-39.84	5.58	60.64	0.71
Transp	-28.88	-35.43	-28.88	-61.07	5.10	38.59	0.65
Utilit	46.55	99.57	83.19	-59.90	-59.39	24.94	0.85

Eorope

	AA	CL	DTT	EY	KPMG	PW	CR4
Auto	-17.37	36.26	-40.24	50.54	-2.92	-27.60	0.68
Banks	24.59	-9.25	27.13	-8.30	2.61	-7.04	0.59
Build	9.20	5.70	-21.02	-13.78	-14.47	67.45	0.63
Chem	-33.50	11.58	-18.24	6.62	22.93	35.97	0.71
Comp	-40.15	41.62	73.15	-27.30	-34.37	109.78	0.73
Cons	33.10	1.05	1.93	-28.67	6.71	-27.96	0.59
Elec	45.89	-52.93	5.51	6.32	-0.97	-7.68	0.59
Eltron	42.39	-4.83	-11.73	7.48	9.93	20.31	0.65
Equip	-12.08	7.79	33.53	-13.50	11.55	-11.41	0.62
Finl	-13.91	11.11	-1.93	-12.16	-10.99	13.16	0.59
Food	-18.03	-7.43	-2.74	-1.06	1.12	-3.49	0.58
Holding	-33.07	-17.54	-27.39	28.60	-31.37	14.63	0.56
Hotel	29.68	-16.32	40.68	-18.99	-30.35	29.86	0.54
Insur	-65.07	-18.85	2.32	-3.27	41.17	1.00	0.65
Metal	44.96	-0.60	-21.36	-30.67	12.84	-12.67	0.62
Mining	36.50	-29.53	-34.84	59.17	-7.63	33.96	0.68
Paper	-29.43	0.19	-8.13	13.15	-3.82	5.13	0.61
Pharm	-28.10	25.94	44.86	4.80	-13.11	-19.00	0.63
Publ	36.50	35.07	-11.15	-20.42	-23.02	-20.26	0.60
Retail	-20.20	11.34	19.33	-7.26	-0.67	-16.85	0.60
Serv	27.23	38.94	-15.06	-0.14	-12.61	-39.97	0.64
Telecom	-13.55	-16.32	40.68	-37.00	-39.06	127.26	0.63
Texti	17.72	-33.53	-52.11	12.60	10.65	22.49	0.62
Transp	30.84	-3.50	-29.02	-11.45	1.02	-9.92	0.59
Utilit	-11.27	49.75	11.07	4.45	-23.02	-28.23	0.62

Japan

	AA	CL	DTT	EY	KPMG	PW	CR4
Auto	-22.23	5.26	-30.43	12.09	-38.83	-64.88	0.55
Banks	9.12	-26.16	17.13	12.32	88.81	-100.00	0.67
Build	27.22	-0.25	-26.16	9.24	-62.90	-46.75	0.68
Chem	-11.77	2.36	-32.35	3.80	-20.69	59.39	0.55
Comp	-100.00	-100.00	-100.00	88.14	-100.00	1550.81	NA
Cons	12.13	-8.94	-19.76	-26.13	-8.28	-59.49	0.55

(continued)

Appendix (Cont.)

Eorope

	AA	*CL*	*DTT*	*EY*	*KPMG*	*PW*	*CR4*
Elec	-20.22	3.07	9.00	25.43	-17.86	-21.39	0.63
Eltron	1.54	-16.02	13.04	30.07	6.48	22.28	0.65
Equip	-16.75	-23.18	21.86	-1.84	7.14	-58.99	0.58
Finl	43.35	18.23	-3.82	-22.53	18.38	-51.45	0.68
Food	2.49	-19.08	28.35	-22.63	39.72	-38.29	0.62
Holding	NA	NA	NA	NA	NA	NA	NA
Hotel	-100.00	-4.86	-100.00	73.67	76.92	-100.00	0.54
Insur	-32.31	14.52	-3.11	-44.25	27.78	22.28	0.56
Metal	-16.75	34.44	-30.94	-11.19	-7.14	23.04	0.58
Mining	52.31	-77.91	-76.64	61.27	-17.86	371.66	0.68
Paper	-22.23	71.05	-30.43	12.09	-2.13	-100.00	0.66
Pharm	-9.74	-8.38	9.00	-2.44	-14.81	144.56	0.59
Publ	-39.08	-7.24	128.90	-62.37	15.00	-100.00	0.70
Retail	9.57	4.55	38.80	-10.67	-42.09	6.89	0.68
Serv	-63.45	48.42	4.64	-24.74	61.00	164.13	0.64
Telecom	103.08	-100.00	-100.00	-100.00	-100.00	1000.54	NA
Texti	27.20	42.71	-20.95	7.51	-49.45	117.69	0.70
Transp	25.18	-15.28	-19.37	13.40	120.55	-54.77	0.68
Utilit	1.54	-65.64	45.33	67.24	-36.11	-100.00	0.67

United States

	AA	*CL*	*DTT*	*EY*	*KPMG*	*PW*	*CR4*
Auto	-3.10	0.34	13.47	54.69	-28.13	-4.53	0.77
Banks	-32.64	-15.88	-5.36	-22.97	102.46	-35.35	0.82
Build	92.18	3.38	-22.06	-32.38	-30.89	14.76	0.74
Chem	-27.02	24.16	-2.33	9.45	-27.83	61.79	0.72
Comp	-40.36	61.76	-33.48	92.36	-50.85	63.24	0.81
Cons	7.81	-23.73	-42.50	-0.22	-25.83	-23.03	0.77
Elec	-2.43	57.46	-20.86	2.99	-29.83	31.09	0.73
Eltron	3.74	-5.56	-28.80	37.05	-3.33	40.87	0.77
Equip	22.04	-0.39	-10.83	26.23	-33.41	10.57	0.75
Finl	-23.85	-27.58	27.38	5.25	23.72	25.05	0.77
Food	-34.62	1.12	-3.88	-22.36	-3.01	31.77	0.72
Holding	-12.98	-3.45	-15.08	-0.01	-40.83	-1.75	0.73
Hotel	92.18	-45.85	-48.97	59.38	-27.60	-54.91	0.88
Insur	-75.54	70.58	1.32	28.47	55.50	-42.62	0.89
Metal	28.91	-4.65	-12.14	31.66	-53.96	29.37	0.79
Mining	49.81	27.60	-39.24	-16.54	-14.70	34.19	0.75
Paper	16.32	34.67	-4.12	31.49	-39.98	16.27	0.73
Pharm	-0.91	73.24	-29.67	13.31	-28.73	3.56	0.76
Publ	1.74	-13.99	35.08	12.51	-37.71	-12.48	0.78
Retail	-10.60	-18.42	27.67	-8.64	-14.89	-23.16	0.79
Serv	36.74	-7.06	-1.08	10.85	-1.32	9.24	0.77
Telecom	59.04	194.10	-33.48	-23.06	-60.68	-34.70	0.86
Texti	-9.21	-52.99	21.51	10.3	-32.66	-3.08	0.80
Transp	25.33	-25.84	-2.15	33.40	-13.24	44.08	0.76
Utilit	112.27	20.18	37.37	-67.04	-53.35	16.20	0.86

(continued)

Appendix (Cont.)

World	*AA*	*CL*	*DTT*	*EY*	*KPMG*	*PW*	*CR4*
Auto	-16.09	23.55	-20.91	40.57	-14.77	-25.19	0.64
Banks	-8.92	-14.83	6.74	-12.56	52.55	-15.07	0.65
Build	37.48	9.27	-26.60	-16.56	-28.39	31.79	0.59
Chem	-23.17	14.29	-15.80	4.92	-4.59	36.12	0.61
Comp	-41.84	37.72	-0.84	52.98	-39.40	123.03	0.75
Cons	16.33	-2.86	-19.40	-23.31	-9.11	-36.55	0.57
Elec	6.39	-9.83	-0.89	6.55	-16.87	-8.21	0.57
Eltron	20.35	-9.57	-6.31	31.08	-3.32	22.92	0.65
Equip	-2.04	-1.11	16.43	-0.77	-8.37	-18.66	0.59
Finl	-11.24	6.62	1.17	-11.10	2.65	14.87	0.59
Food	-24.87	-5.99	-2.79	-13.54	6.00	8.04	0.57
Holding	-37.37	-13.79	-34.97	15.55	-24.02	27.98	0.55
Hotel	56.28	-29.72	-26.60	37.20	-21.50	-11.72	0.65
Insur	-69.87	8.00	-5.88	6.99	57.75	-4.68	0.70
Metal	20.34	12.68	-19.40	-5.05	-17.46	-3.87	0.61
Mining	38.81	-17.26	-43.83	26.38	-4.89	53.54	0.69
Paper	-6.71	22.80	-10.87	-6.35	-15.89	6.63	0.58
Pharm	-12.53	30.35	6.92	4.14	-21.14	-3.25	0.61
Publ	10.66	7.19	30.85	-1.90	-24.91	-12.07	0.61
Retail	-1.36	-4.95	37.64	-5.10	-14.59	-20.31	0.59
Serv	25.15	16.65	3.52	7.49	-2.21	-1.53	0.66
Telecom	44.72	65.67	-13.49	-28.13	-48.60	70.26	0.70
Texti	12.87	-16.51	-7.79	6.50	-18.22	12.14	0.57
Transp	24.93	-6.92	-19.26	2.07	10.13	-12.48	0.64
Utilit	83.24	20.77	36.64	-34.64	-36.53	5.94	0.70

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Advancing The Harmonisation of International Accounting Standards: Exploring an Alternative Path

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Key Words: Harmonisation; International Accounting Standards Committee; Mobilisation of harmonisation; Standard setting procedures

Abstract: *The IASC has been actively pursuing the goal of international accounting harmonisation for two decades. Whilst there has been much productive output, little progress has been made in achieving global uniformity in accounting. In attempting to explain the lack of progress, this paper adopts the view that the cause of stagnation is the process used to mobilise harmonisation. The IASC has only recently acted upon the fact that there has not been enough examination of the processes and structure of the IASC. Yet analysis of the mobilisation process reveals a number of flaws, among these, concerns about the institutional legitimacy of the IASC. The consequence of these flaws is that uniformity in reporting practices is unlikely unless alterations are made to the mobilisation mechanism, in this instance the IASC. This paper proposes a restructuring of the IASC and the adoption of the convention method as a means to remedy the perceived flaws in the current process.*

INTRODUCTION

Traditional international boundaries are becoming less relevant to business enterprises as the global marketplace evolves. International bodies such as the European Union (EU), Association of South-East Asian Nations (ASEAN) and the International Organisation of Securities Commissions (IOSCO) are actively working to create business infrastructures which facilitate international trade and commerce. Aspects of international business and trade — such as law, marketing, finance, and economics — have all, by methods such as treaties and bi-lateral agreements, transcended national boundaries and converged. Within the international business community there is now an expectation that accounting, as the information provider to business and a part of the international business infrastructure, should also transcend national boundaries and converge (Purvis et al 1991). Accountants refer to this process as harmonisation or standardisation.

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Harmonisation will make the comparison of international reporting and investment opportunities easier, more rapid, and a less expensive activity. In addition, the harmonisation of accounting practices has numerous financial, strategic and commercial advantages for multinational corporations (MNCs) (Tondkar et al 1989). In 1973, accounting practitioners from around the world joined forces and established a global body whose function is to minimise variations in international accounting principles and reporting practices via the promulgation of international accounting standards. This body, the International Accounting Standards Committee (IASC), has been productive in its role. The IASC has issued numerous standards and a conceptual framework for financial reporting. Global or international harmonisation in accounting, however, appears to remain as elusive as ever.

Whilst the history of the harmonisation debate indicates that any journey along the continuum identified by Tay and Parker (1990)[1] will be, and indeed already has been, interrupted by numerous hurdles and obstacles, it appears that some within the international business community maybe becoming impatient with the lack of progress. The proponents of harmonisation within the accounting community must develop mechanisms to overcome such obstacles as they arise if harmonisation is to be achieved. This may include the adoption of a new or modified structure to implement the process.

Wallace (1990) suggested that a lack of progress was due to deficiencies in the process, namely that the IASC lacked sufficient authority and substantive due process. In examining its survival strategies, he provided an explanation of how the IASC has tried and is trying to overcome the deficiencies through the management of its external environment. Internally, it was noted, more funds and manpower were needed (Wallace,1990). Reacting to criticisms, the IASC response has been to broaden the range of membership. Whilst this has advantages in increasing the level of financial contributions, it has resulted in an unwieldy and cumbersome executive structure. Any increase in participants needs to be managed carefully to achieve an outcome that enhances not inhibits the IASC. Yet, there can be little doubt that the IASC harmonisation program has had limited success. Discussions of the nature that follow can be useful devices for re-opening debates in areas that have stalled and require new approaches in order to move forward. In the case of the structure of the IASC, an initial absence of serious debate about the best mechanism to achieve harmonisation may be a cause of the current problems and the lack of progress. The re-organization of the standard setting process is a contentious issue, argumentative by nature. As such, the acceptability of proposals will be dependent upon an individual's opinions and philosophical viewpoint.

The purpose of this paper is to present an alternative mechanism for the harmonisation of international accounting which may assist in overcoming existing deficiencies in the IASC approach. One option is for accounting to emulate the model of international law and move to a system similar to the convention method which operates in intellectual property law. Under the convention method, universal practices and obligations can be supported with legal backing after governments consent to negotiated international treaties. In intellectual property law this process is supported by the World Intellectual Property Organisation (WIPO), a body with which a modified IASC may be highly analogous. This may perhaps mean redefining the IASC and altering its structure so that it becomes the International Accounting Standards Convention.

The paper commences with a brief discussion of the proponents of harmonisation and an evaluation of the current approach to achieving the harmonisation of international

accounting standards and practice. This analysis identifies a framework of the steps to harmonisation and also includes a brief examination of the institutional legitimacy of the IASC. Following the identification of perceived flaws in the current approach to harmonisation, an alternative means of achieving harmonisation is presented and discussed. This paper suggests changes that will be significant to both the structure of the IASC and the enforcement of the standards it produces. Both provide the possibility for a greater level of harmonisation.

PROPONENTS OF HARMONISATION

Although the professional accounting bodies were the first to raise the issue of converging worldwide accounting practice and have been the major source of developments, there are now a number of parties with an interest or involvement in the process (Samuels and Piper (1985), Chandler (1992), Carsberg, (1997)). The professional accounting bodies are today represented by the IASC and the International Federation of Accountants (IFAC). These organisations are closely related and have a common membership. The IASC is responsible for the development of international accounting standards and, at the time of writing, had issued 31 International Accounting Standards, a Framework for Financial Reporting and 46 Exposure Drafts. The current membership of the IASC is comprises 105 accounting bodies from 85 countries; however, only a portion of these members have standard setting authority. For example, none of the professional bodies in Australia, the United States, France, Germany and Japan have the authority to set legally enforceable standards. In contrast, professional bodies in Canada, Singapore and Malaysia receive legal backing for their standards.

A level of regional harmonisation has been achieved by the European Union (EU). The position of the EU is somewhat different to that of the IASC. The fundamental objective of the EU is the creation of a common economic market which allows free mobility of capital, labour, and enterprises across the national borders of its member countries. To achieve this objective it is necessary that the infrastructure of markets be harmonised and financial accounting is considered to be part of that infrastructure. The EU influences financial reporting via legal directives. Although EU Directives are not standards and variations in interpretation have restricted the level of harmonisation, they have at least improved the level of comparability of financial reporting requirements.

Recently, the International Organisation of Securities Commissions (IOSCO), an affiliation of almost fifty national security regulators, has shown an interest in the harmonisation efforts of the accounting community. This interest may be due to frustration at the lack of progress in harmonising reporting standards and the resultant effect upon capital markets. A central aim of IOSCO is the growth of international financial markets by reducing the diversity of securities regulations (Chandler 1992). IOSCO has encouraged the IASC and IFAC to improve the quality of existing standards and guidelines. According to Chandler (1992), both the IASC and IFAC are keen to explore the possibilities of close co-operation with IOSCO. In July 1995, IOSCO agreed to endorse use of IASs for cross-border listings if the IASC can successfully complete its current work programme. The aim of the IASC work programme is to eliminate most of the choices within standards and produce a set of comprehensive standards.

Other groups interested in the development of harmonised reporting practices are the business participants in the international marketplace, predominantly the multinational corporations (MNCs), and the large international accounting firms that service these MNCs. These international accounting firms, often referred to as the "Big Six," are able to exert considerable pressure upon national professional accounting organisations. For both MNCs and the Big Six there are benefits in having uniformly accepted accounting practices across borders.[2]

The Organisation for Economic Co-operation and Development (OECD) and the United Nations (UN) are two quasi government organisations that have also shown some interest in international financial reporting (Wallace,1990). In the early 1970s, the United Nations Commission For Transnational Corporations was created. Burdened by political rather than technical considerations, the interest of the group eventually waned (Wallace,1990).

The proponents of harmonisation can be divided into two orders: a first order comprising those bodies which directly or indirectly develop a harmonisation product in the form of standards or regulations and includes the IASC and the EU; and, a second order comprised of those who are not directly involved in producing harmonising documents but who have a strong interest in the process because they perceive a benefit to either themselves or to a constituency in which they have an interest. IOSCO, MNCs, international accounting firms, the OECD, and the UN are members of this second group. As non-productive proponents, the members of the second order seek to influence the output of the first. The methods available to the second order participants in the debate relegate their role to that of lobbyist or observer and may be an indication of the political nature of the process.[3]

The methods used by the proponents to achieve harmonisation vary in manner and effectiveness. The EU has an expert group of accounting representatives from its member countries which report to a legislative body, promulgates its product in legislation, and has the capability to enforce its will via the European Court of Justice. Although there have been criticisms of the pace of the process, importantly, this method has the support of governments.

The IASC approach involves a broad global membership of mostly non-government bodies, a select executive, and the promulgation of its product in the form of voluntary standards. Due to an absence of any enforcement capacity the IASC places reliance upon the best endeavours of national professional bodies who themselves may lack authority. Under this method the absence of legal authority is an impediment to international acceptance.

IOSCO is classified as a second order participant. IOSCO's membership is comprised of representatives of securities regulators in numerous countries. Whilst IOSCO itself may have little power, a number of member regulators have been granted their power through legislative enactments. As such, some of the regulators have substantial enforcement powers over corporations who list on their market. However, IOSCO does not produce harmonising standards which require compliance. Instead, IOSCO seeks to influence the activities of the IASC, the EU, and governments. By accepting an invitation to attend IASC meetings, IOSCO can be considered to be a well placed lobbyist. Ultimately, however, the ability of a lobbyist to influence the process is dependent upon factors outside of its control. MNCs and the large international accounting firms are also restricted to the position of lobbyists in the process. They may not directly address the IASC but may seek to influence the process via national professional bodies. Hopwood (1994) noted the lobbying activities of the international audit community in Europe. Although other interested

Table 1. Proponents of Harmonisation

Proponent	*Organization status*	*Method Summary*	*Enforcement Power*	*Perceived Level of Effectiveness*
IASC	First order	Voluntary standards	None—Persuasive	Limited
EU	First order	Compulsory Directives	Judicial support	Medium to Strong
IOSCO	Second order	Participating lobbyist	None—Persuasive	Limited to medium
MNEs	Second order	Lobbyist	None	Limited
Accounting firms	Second order	Lobbyist	None	Limited
OECD	Second order	Observer	None	Limited
UN	Second order	Observer	None	Limited

parties such as the OECD and the UN have in the past issued statements and pronouncements, more recently they have predominantly been restricted to observer status.

The respective powers and method adopted by the proponents are summarised in Table 1. The final column provides a comparison of the perceived level of effectiveness under the methods currently adopted by each of the proponents.

A FRAMEWORK FOR HARMONISATION

The process of harmonisation can be thought of as a succession of progressive steps. These steps are displayed in Figure 1. The environments in which the harmonised standards must operate are continually evolving. As a result, the harmonisation process cannot be viewed as an isolated, singular activity but instead must be seen as a continual operation of reassessment and adjustment. The diagram has divided the harmonisation of accounting practice into 5 levels. Level 1 is concerned with the aims of harmonisation whilst level 2 is concerned with the benefits of harmonisation. These levels, 1 and 2, have received much attention. Research at this level of the framework has produced descriptive lists of aims and benefits. Further, numerous definitions and interpretations of harmonisation have been presented in works by Samuels and Piper (1985), Nobes and Parker (1995), van der Tas (1988), Wallace (1990), and Tay and Parker (1990), and several efforts have been made to measure the levels of harmonisation across national boundaries.[4]

Levels 3, 4 and 5 of the framework are more relevant to this paper. Level 3 is concerned with the production and substantive content of international standards. The issuance of an International Accounting Standard (IAS) is preceded by an exposure draft prepared by sub-committees of the 17 member Board of the IASC. For an exposure draft to be published, a two thirds majority vote of the Board is required. A subsequent standard must be approved by a three quarter majority. The production of the IASs has drawn the most criticism within the harmonisation debate as the applicability and quality of some standards has been brought into question. Concern by some nations that the standards are too closely aligned with Anglo-Saxon practices, that they allow too many alternatives, and that they may not be relevant to all nations have been expressed (Nobes and Parker 1995). The IASC itself has attempted to address some of the criticisms via its E32 comparability project. After several years of discussion and debate, ten revised standards were issued in

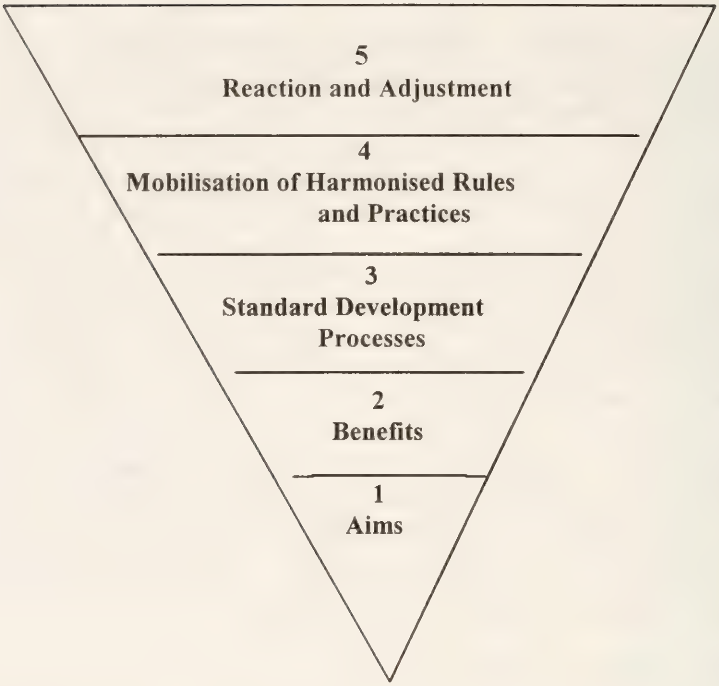


Figure 1. Steps to Harmonisation of Accounting Standards.

November, 1993. The impetus for this project was partially in response to the possibility that IOSCO members might accept IASs as listing requirements for foreign companies.

The major focus of this paper is on level 4 of the harmonisation framework. Level 4 of the framework is concerned with the mobilisation of the harmonised rules and practices. "Mobilisation" is defined in this paper as the process or mechanism by which accounting practices actually converge so that diversity of practice and reporting is reduced or minimised. To members of the IOSCO, effective mobilisation will include rigorous monitoring to ensure compliance with IASs. Logistically, this would be difficult for the IASC under the current structure (Leisenring, 1997). The importance of the SEC attitude to IASs is also important. Carsberg noted that the SEC was prepared to support IASs if the IASC could developed a good quality set of core standards and that they could ensure they were rigorously applied and interpreted.

To date, this aspect of the process has received inadequate analysis. Researchers who have lamented the slow progress of harmonisation have concentrated upon external factors such as environmental and cultural conflicts, sovereignty issues, and perceptions of poor quality standards.[5] A degree of harmonisation has been achieved by emerging nations adopting considerable portions of IASC output. However, this adoption is not necessarily made in the spirit of harmonisation but instead as an act of expediency with the aim being to implement or upgrade a system of accounting standards as a part of national business infrastructure. In the absence of IASs, these nations might have adopted the standards of an individual nation and, therefore, any harmonisation via adoption of IASs may

have been accidental rather than as a result of the processes of the IASC. Until recently, the IASC and researchers have tended to ignore the possibility that the mechanism itself may be the obstacle to harmonisation. The IASC has itself acknowledged deficiencies in its current structure and has begun to actively investigate alternate structures. Central to this is a question of the role of the IASC and Carsberg has acknowledged the possibility of a two-tiered structure. The impediments to harmonisation may be specifically linked to the method used to achieve harmonisation and a new approach may lead to their resolution. In any case, it is a shortcoming of prior research that the feasibility of alternate harmonisation methods has not been seriously discussed or fully investigated.

Level 5 of the framework is concerned with the reaction of accounting environments to the adoption or adaptation of international standards such as the IASs. The focus here is upon maintaining harmonised financial reporting. The business environment is dynamic and the supporting infrastructure must maintain its relevance. Accounting harmonisation once achieved will not be the end of the process. It is essential that the IASC has in place mechanisms that can cope with changes that will inevitably occur in the accounting environments so as to ensure that its standards and procedures remain relevant. Since 1973, the only major review related to its standard setting procedures has been the Comparability Project. Although several national standard setting bodies possess emerging issues procedures, there is little evidence that such a mechanism has been operative in the IASC. Given the complexity of international business it is important that the IASC have such a mechanism in place as this process of reaction and adjustment is likely to be continuous. To this end, the IASC has recently instituted an emerging issues committee programmed to commence operation in 1997. However, the specifics of this process cannot be adequately identified until the mobilisation question is resolved and as such this aspect of the harmonisation process receives minimal attention in this paper.

In summary, the merits of the harmonisation of international accounting and reporting practices is now entering its third decade of research and debate. Much of the discussion to date has been descriptive and static rather than dynamic in its analysis. Debate has been concentrated upon such issues as : what might constitute harmonisation; whether harmonisation is needed or desirable; and, what its actual substantive form should be. A consequence of this is that past discussion and debate has failed to provide a resolution to what might be the most significant problem confronting the achievement of harmonisation. Insufficient attention has been paid to the more difficult issue of how the harmonisation process can be mobilised. In the case of international accounting, this means identifying and investigating those obstacles impeding the journey to harmonisation, and then assessing the adequacy of the current structure and power of the IASC for its role in the process. Wallace (1990), Rivera (1989) and Goeltz (1991) have provided such an investigation. Issues relevant to this paper are briefly reviewed below.

IMPEDIMENTS TO HARMONISATION: AN ANALYSIS OF LEVEL 4

Numerous reasons have been cited for the low level of success in harmonising accounting practices. Taylor (1987) notes that harmonisation is considered by some to be both impractical and unnecessary. Goeltz (1991) also expressed reservations about the need for harmonisation suggesting international trade and finance has grown significantly without

international standards. Conversely, Wallace (1990) stated that the IASC is a legitimate organisation which, despite its perceived problems, is probably here to stay. There are, however, several factors or obstacles which may impede the achievement of harmonisation. These impediments can be grouped into: those relating to the operational environment; qualitative issues within the standards; financial factors; sovereignty issues; and the mechanisms by which harmonisation has been pursued. The following discussion is limited to those impediments considered to impact upon level 4 of the framework, mobilisation.

Studies assessing the progress of harmonisation suggest that the IASC has had little influence in the harmonising of international financial reports. In an early study, McKinnon and Janell (1984) concluded that "the IASC has not succeeded in changing existing standards or setting new standards," whilst Nobes (1990) suggests that compliance with IASs by US multinationals is negligible. More recently, Emenyonu and Gray (1993), in a study of 293 annual reports from France, Germany, Japan, Britain and the U.S., and in 1996 in an empirical study of harmonisation in the major developed stock markets, stated that progress towards harmonisation has been mixed. A clearer view of the level of harmonisation under the IASC standards may not emerge until the current work program is completed.

An impediment to the success of the harmonisation process in accounting is that the implementation has been left to the "best endeavours" of the national professional accounting bodies who constitute the IASC. These bodies are not official government agencies, thus they have limited legislative power and influence. As a result, despite the best intentions and efforts, the membership of the IASC has persuasive power equivalent only to a lobby or pressure group. Consequently, the IASC's effect upon legislation is limited. This restricts the process of harmonisation. Given the broad global membership of the IASC, it is possible to conclude that the current method of mobilising harmonisation, without government support, is a flawed process, and unlikely to lead to harmonisation of financial reporting. It appears that the professional bodies' endeavors need to be supported by government legislation or greater involvement by IOSCO members, particularly those with legislative powers.

There has been little analysis of the processes that are involved in the adoption of the IASs by nations and perhaps the IASC may achieve a greater level of adoption of IASs if it were to more fully examine the processes of adopting standards rather than assuming that nations will use their product. Issues surrounding enforcement, a crucial aspect of harmonisation, receive little attention. Nobes and Parker (1995) argue that the IASC has in fact weakened its enforcement position:

"One tell-tale sign of the problems of enforcement is the gradual weakening of the commitments required from member bodies. At one stage, members were required to use their best endeavours to ensure that companies who broke international standards would disclose this fact. Now the IASC Preface calls for companies that observed the standards to disclose the fact. In the case of Ireland and the United Kingdom, the professional bodies have moved away from the idea of audit qualifications for breaches of IASC standards or even for lack of disclosure of breaches."

The position of the professional bodies is made more relevant by the fact that the UK is a prominent member of the IASC.

Nationalism can be a major impediment to mobilising harmonisation. Governments may view attempts by the IASC to alter national accounting rules as infringements upon their national sovereignty. Developing nations and those which have been colonies of

imperial powers are particularly sensitive to intrusions. Governments must be convinced that the benefits of adoption will flow to them and/or their constituencies, before they will surrender their power to make accounting rules to external bodies. To achieve harmonisation under the current approach, accountants and the IASC must demonstrate significant benefits to a wider group than just accountants. Nationalism as a barrier to harmonisation may not be limited to the government level but may also be found in the ranks of a nation's professional accounting organisations. Currently, not all national accounting standard setting bodies (such as the Financial Accounting Standards Board in the United States) are members of the IASC and some will be unwilling to give up their position of power and influence.

The IASC does not have a clear mandate from national governments or accountancy bodies to produce compulsory accounting standards. Private sector bodies such as the IASC have no power to force compliance with standards that are in conflict with legislated listing requirements. Whilst the use of IASs as a basis or guide for the setting of national standards in some developing nations provides the IASC with a de facto mandate, nowhere does it have a legal or de jure mandate. This limitation of insufficient authority will not, as Chandler (1992) suggests, be overcome by collaboration between the IASC and bodies such as the IOSCO. Whilst more moral and persuasive influence may be gained from such collaborative efforts, it is the view of this paper that such an effort is still only persuasive, not authoritative as there is still an absence of legislative power.

A further deficiency in the current process identified by Wallace (1990) is the issue of suitability of the standards to all environments. Currently, the standards do not differentiate between large and small MNCs from developed nations, and the small MNCs emerging from developing and newly industrialising nations. This is a consequence of the narrow industrialised environments from which the IASC draws its current board membership from and the special relationship it has developed with its professional member bodies (Wallace 1990) This was viewed as detrimental by Wallace. Further, the official language of the IASC is English and this may cause problems for the use of standards in environments where English is not the first language. Consequently, compliance with IASs under the current structure and product outcomes is likely to remain minimal. Recognition of, and catering for, disparate environments or reporting needs might be improved if the participants in the process were drawn from a broader spectrum of the international community. At the same time the influence of any one group might be diminished thereby reducing the likelihood of undue influence from any one group of organisations.

Institutional Legitimacy

From the viewpoint of institutional legitimacy, the weaknesses outlined above suggest that the IASC will be unsuccessful in attaining its harmonisation goals. Using the work of Johnson and Solomons (1984), Wallace (1990) examined the institutional legitimacy of the IASC. Wallace concluded that the IASC lacks sufficient authority as a standard setter as it has no clear mandate for its operation and some observers would question its competency of the IASC to produce standards suitable across the wider international environment. Further, Wallace stated that the IASC failed to exhibit substantive due process and this exposed the IASC to political interference and accusations of undue

influence by those it may seek to regulate (Wallace 1990). Figure 2 displays the results of this examination. To overcome these deficiencies and ensure its survival, the IASC has attempted to manage its external environment (Wallace 1990). This management has included: the practice of developing and maintaining strong links with its Board members; encouragement of member nations, particularly the developing nations, to adopt IASs as a model for standards and offering advice; the inclusion of more input from user groups in the standard development process; and the development of links with bodies such as the UN and various regional organisations; and bodies such as IFAC and IOSCO. However, if the level of harmonisation is used as a measuring stick, the steps and processes adopted by the IASC to manage its external environment do not appear to be successful. The level of progress is an indication of the lengthy evolutionary process that is harmonisation. Change in the absence of formal government intervention will be slow and incremental.

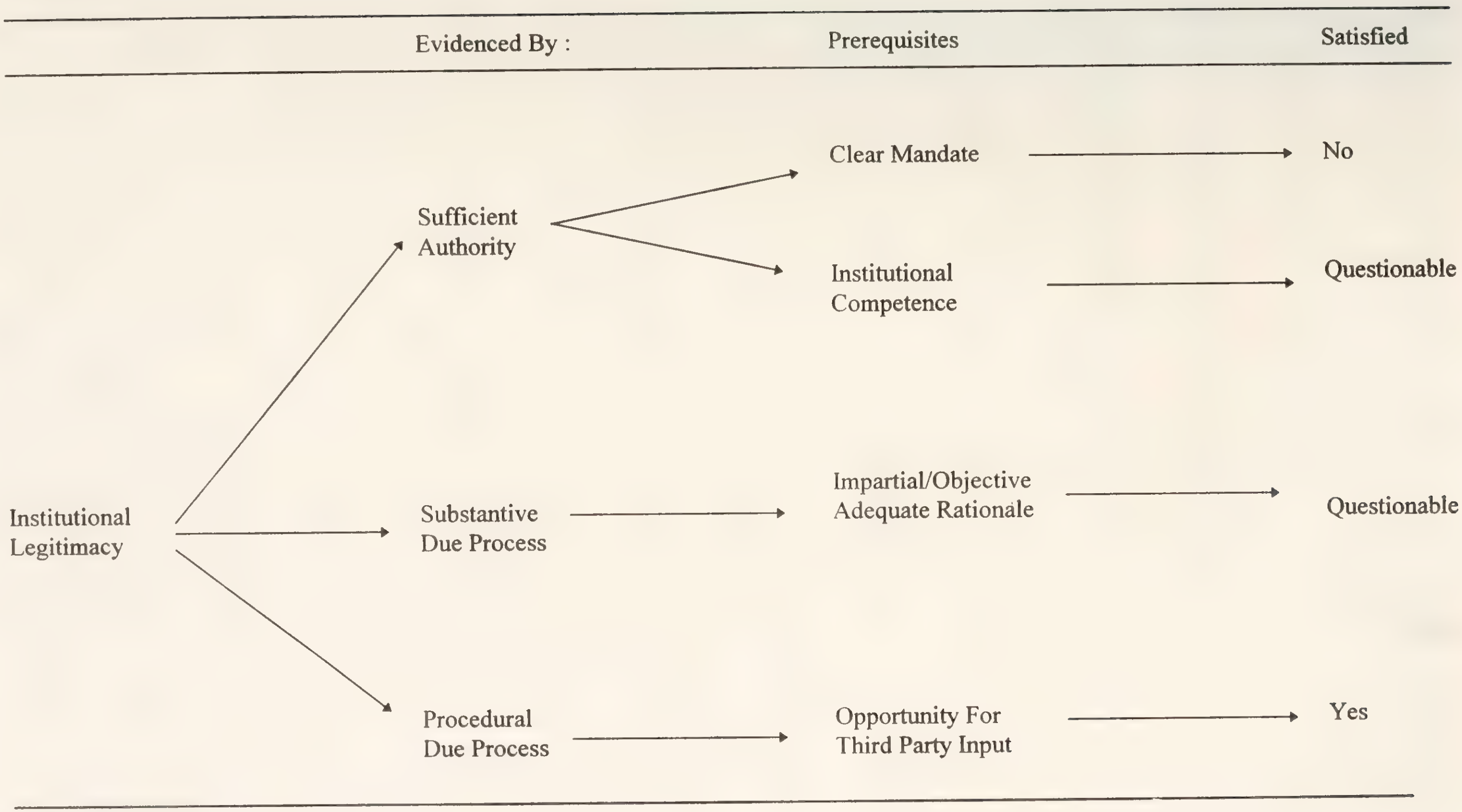
Further, it could be argued that current attempts expose the IASC to capture by some of its member bodies (Wallace,1990) the result of which would be the promulgation of accounting standards which fail to satisfy the needs of the wider environment. Although there may be some doubts about the legitimacy and capacity of the IASC, a need for some harmonisation of accounting practices would still exist even if the IASC ceased to function. Perhaps the crucial question is not whether the IASC has a role to play, but whether the current format of the IASC is appropriate to the task at hand (Wallace,1990).[6] Throughout the debate, analysis of the process and identification of feasible procedural mechanisms has been neglected. Bodies such as the IASC (and IFAC) have assumed that the traditional structure is the most suitable. They may have failed to recognise the uniqueness and enormity of the issue, an issue too large for an organisation such as the IASC, within its current structure, to resolve. The possibility of success via alternative mechanisms has been ignored in this blinkered approach.

The IASC has received accusations of Anglo dominance and undue influence by interested parties. What is needed to ensure the legitimacy, and hence successful mobilisation of the process, is a body which has some legislative support for it standards and a perception of independence. It is noteworthy that in the majority of industrialised nations, the legitimacy and enforcement of standards is ensured by legislative backing. The USA and Australia are two examples where the process has adopted such a structure with legislative support for accounting standards to overcome perceptions of an absence of independence and provide enforcement power. There is no reason why the much more difficult task of international standard setting should be any different.

AN ALTERNATIVE PATH

In both law and accounting, disparate economic, political, and cultural environments cause variations in the content of substantive rules between nations. The problems currently confronting those seeking internationally harmonised financial reporting practices are similar to those which inhibited uniform international intellectual property laws. Accounting might take the opportunity to gain from the experiences of other disciplines, in particular, intellectual property law, in the resolution of its harmonisation problems.

An examination of the harmonisation process in the area of intellectual property law reveals two related methods by which accounting may be able to accelerate its efforts to



Notes: Adapted from Johnson and Solomons (1984).

Figure 2. Framework for Instituational Legitimacy—The IASC.

achieve harmonised accounting practices, namely the convention method or the broader General Agreement on Tariffs and Trade (GATT) [now superceded by the World Trade Organisation (WTO)]. The adoption of these methods would increase government involvement, and may overcome some of the impediments or obstacles to mobilisation noted above. A further point for consideration is the possibility that the inclusion of accounting as a part of a broader agenda dealing with international trade infrastructure, might heighten the opportunities for mobilising harmonisation. Whilst no evidence yet exists that individual countries would transfer their authority to an international body, or that the combination of the IASC/IOSCO will prove more effective, the issue of alternative structures should be investigated and considered.

The two proposals stated above have some similarity, the major distinguishing feature being the level of formality and breadth of issues debated under GATT whereas conventions are usually limited to single issues or topics. The first of the methods is drawn from proposals for the extension of the GATT program which recently culminated in the formation of the WTO. Based upon the broad agenda of reducing distortions and impediments to international trade, these proposals involve the extension of the GATT or WTO program to include international trade in intangibles such as services and intellectual property rights (Ullrich,1988). The second method is the adoption of a treaty or convention system. The treaty system is frequently used in law to achieve international agreements which economic, political, and cultural factors would otherwise inhibit. The convention method of operation involves the creation of regulating rights and obligations within the relevant field upon the member nation states.

Proposals for a GATT style framework to cover "services" have been discussed recently within both the world trade and law literature (Uchtenhagen, 1990).[7] The development of a "service" GATT, encompassing aspects of business services, would provide the opportunity for accounting standards to be included in a formalised framework and to be subject to the GATT philosophies. This could include forms of reciprocity and most favoured nation treatment (under a service GATT), the removal of barriers to capital movement, and amendment to capital market regulations. For the purposes of this discussion, however, the inclusion of accounting in a "service" GATT is viewed, at this stage, as unlikely as the time frame for the development of a "service" GATT is unclear. The GATT style proposal may, in the future, have merit as the WTO focusses more attention upon services but will not be considered in any detail in this paper. However, aspects of the debate may prove relevant to accounting.

The use of the treaty method may, however, have more immediate application to accounting. The harmonisation of intellectual property laws across national boundaries was achieved by the development of treaties and conventions. These treaties and conventions were developed and agreed to by governments after periods of debate, consideration, and negotiation. Such treaties and conventions, once signed, are then administered by a central body - in the case of intellectual property law, the World Intellectual Property Organisation (WIPO). WIPO, established in 1967, became an official agency of the United Nations (UN) in 1974. Examples of such international law treaties or conventions are the Paris Convention For the Protection of Industrial Property (1883), the Berne Convention For the Protection of Literary and Artistic Works (1886), the Universal Copyright Convention (1952), the Phonograms Convention (1971), and the Satellite Convention (1974). Although these treaties and conventions are for products or rights that can be pro-

tected as distinct from accounting standards, the important precedent is the level of negotiation and agreement achieved by governments. The result of such negotiation is signed agreements by governments which resulted in the passage of responsibility to an expert organisation, in the case of intellectual property law, WIPO. This agreement by governments and the accompanying willingness to legislate, is seen as necessary to the legitimacy of IASC standards.

Structure of the World Intellectual Property Organisation

Figure 3 displays the current structure of the WIPO as set by the WIPO Convention in 1967. WIPO currently enjoys a membership of 126 member states. The General Assembly of WIPO is the ultimate authority. The government of each member state is represented by one delegate who has only a single vote. The General Assembly meets once every three years, although extraordinary sessions are permissible. The organisation is financed by government annual contributions, the level of the contribution by a member is dependent upon their class. Class A nations pay 10 units, Class B nations 3 units, and Class C 1 unit. The functions of the general assembly are to elect the Co-ordination Committee, appoint the Director-General, adopt the budget, and review and approve administrative measures of the Director-General.

The Co-ordination Committee acts as an executive board of the organisation. It gives advice to the general assembly and the Director-General, and prepares draft agenda for the General Assembly. The Co-ordination Committee meets annually.

The International Bureau is the secretariat of the organisation and is managed by the Director-General, assisted by two or more deputy Directors-General. The Director-General is the chief executive of the organisation and appoints the staff necessary for the efficient performance of the International Bureau, including liaison with the various working and technical groups within the organisation. The nature of the responsibilities of the Director-General and staff is exclusively international. They are not permitted to seek or receive instructions from national governments or external authorities. The organisation shall of course, where appropriate, establish working relations and co-operate with other international inter-governmental organisations, with non-government international organisations, and with national government and non-government organisations. The International Bureau also determines the languages in which conventions and treaties are proclaimed.

A Restructured IASC

In the restructure of the existing IASC to a convention, a similar organisational structure to that of WIPO could be adopted. This is displayed in Figure 3. A General Assembly, Co-ordination Committee, Director-General, and Secretariat with similar responsibilities and powers would appear feasible. A major departure from the current IASC structure is that the membership of the organisation would be converted to those with enforceable standard setting authority.[8] The outcome would have some similarity to the view of Wallace (1990) who suggested a revamping of the IASC and the creation of a Global Financial Reporting Foundation. The proposed restructure satisfies the suggestion of Wallace (1990) that it

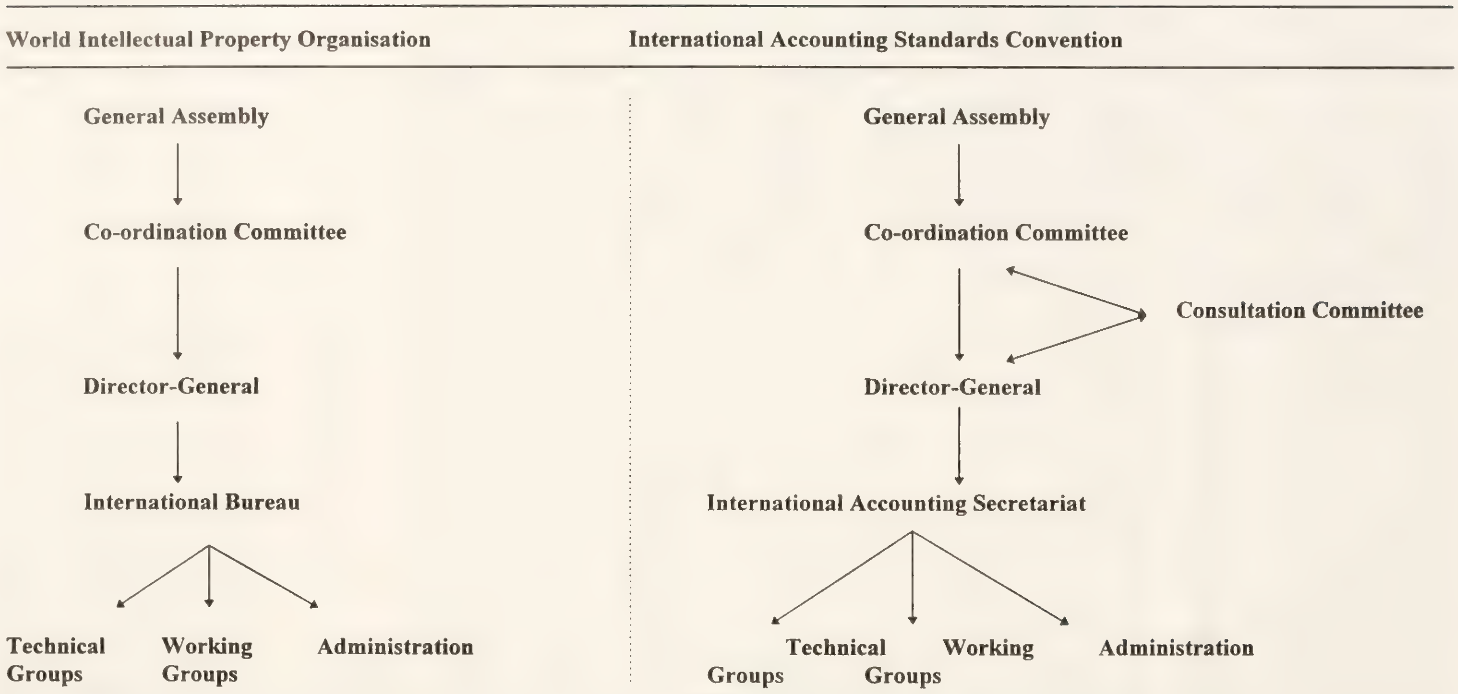


Figure 3. Organizational structure of WIPO and proposed IAS convention.

would be beneficial to formally incorporate more non-accounting representatives thereby providing a broader input from the wider international community. Accounting representatives from each nation would be restricted to bodies with standard setting authority as this would overcome the existing lack of enforcement that inhibits the current structure. However, any reorganisation would be unsuccessful if it represented a mere reshuffle of responsibilities and did not broaden membership to include standard setters and government agencies.

To accommodate the need for the inclusion of broader membership, a second level of the committee structure has been included in Figure 3. This Committee, to be known as the Consultation Committee formally incorporates other international bodies with an interest in the development of international business infrastructures. The Consultation Committee would have direct links with both the Co-ordination Committee and the Director-General. It would have a multiple role as a reviewer of proposed standards, an initiator of new proposals, and as a general adviser on international issues. The Director-General would be required to act upon the areas of investigation identified by the Consultation Committee or to show sufficient cause as to why this was not done. Included in such a group could be government and quasi government bodies such as capital markets regulators and supranational organisations like the OECD, and representatives of international business. National accounting bodies which do not receive a membership on the General Assembly can still be participants in the process via membership of the Consultation Committee or providing expertise by membership of a Technical or Working Group. It is envisaged that these groups draft proposed standards, investigate emerging issues, and provide revisions of existing standards to ensure standards remain relevant to changes in the business environment.

The national accounting bodies will have a role in implementing and monitoring any new IASs as applicable. Further, they may also provide advice and research expertise to their national government. In some instances, governments may decide to appoint the national accounting body as the General Assembly delegate. This may serve to raise the official profile of such bodies. There may be some resistance to the changes by some national bodies as they see themselves as being disenfranchised, however, this may be the cost of achieving greater levels of harmonisation. The staff of the International Accounting Secretariat, similar to the WIPO International Bureau, would be drawn from diverse backgrounds and nationalities.

Under the proposed restructure the IASC may even be able to expand some of its functions such as conducting research into problem areas. The IASC could operate education and assistance programs to aid developing nations in increasing their training, expertise, and skills. Assistance to developing nations enables them to reach a level where they are able to join the conventions as fully equipped members. This may mean, for example, the secondment of experts from the IASC to assist nations with developmental aspects of their accounting.

The development of accounting conventions or treaties to meet changing circumstances in international business and domestic environments is relevant to both the Mobilisation and Reaction and Adjustment stages of the harmonisation process developed in Figure 1. The ability of accounting conventions to be responsive to changing circumstances would be improved as an expanded IASC could research and propose new standards to be incorporated within treaties. Such changes may be initiated by governments, business,

accounting bodies or the IASC itself; however, any alterations would only be implemented after the process of government negotiation was completed. It is envisaged that the accounting conventions would be comprised of groups of agreed accounting standards. The accounting conventions could form model accounting standards. Over time, as more conventions are developed, a complete set of acceptable international standards would be developed. As a result there would be a movement along the continuum identified by Tay and Parker (1990) towards greater harmony.

In the development and promulgation of IASs there needs to be some recognition of the varying levels of economic development and sophistication of reporting requirements. Whilst a number of accounting rules will be universal, the imposition of highly sophisticated reporting requirements might be unnecessary in less developed economies. The substantive negotiation of the conventions could take into account the disparate environments within which the reporting practices would have to operate, and, as is the case in areas of international law, developing nations may be specially catered for in the development and adoption of standard practices. Adoption timetables may be linked to levels of economic development and growth, thereby maintaining some degree of symmetry between accounting information needs and economic growth. For example, measurement and disclosure practices. This is congruent with the concerns by some about the need to alter the harmonisation product to increase the level of suitability to such nations. Further, a more representative international agency would be better placed to examine the impact of language variations upon the standards and their application to financial reporting. A truly multinational approach could enable the IASC to produce its standards in a number of languages, in a similar manner to which WIPO produces the rules of the conventions. This would remove the need for localised translations and interpretations of standards which in the past may have reduced harmony. International accounting standards that were not applicable to multiple environments were noted as impediments to mobilisation in the preceding section of the paper.

The most important aspect of the convention method is that it would create a situation where international accounting standards have the direct support of national governments. Membership of a convention or treaty would provide the mechanism necessary to overcome previous government resistance to the IASC standards in those situations where IASs require practices or rules were resisted because their inclusion or adoption in reporting practices was in conflict with national law or policy. Similarly, harmonisation does not occur where a national government or its agencies view the adoption of standards as an intrusion upon its sovereignty by external bodies. Such problems would not exist were a government, after consideration and negotiation, to agree to the contents of a treaty. The involvement of government level agencies would overcome the ineffectual "best endeavours" of IASC member bodies under the current mechanism. Significantly, for some nations, the signing of a treaty under the convention method would mean that the contents became self-executing, with the treaty agreement being incorporated into national law as a basis for enforceable claims. Such a scenario would enhance mobilisation because it would overcome the absence of an enforcement capability under the current format.

Adoption of the convention method may enhance mobilisation by altering the mindset of those who currently resist harmonisation initiatives because of perceived dominance by other nations. The convention method would help to alleviate any perception that the mode of rationality in international accounting is determined by what is good for only one

group. Implementation of the convention method as proposed would mean that the standard setting process would be opened to those constituencies which have previously been excluded or have had minimal influence. The convention method would offer more to the developing nations who, although greater numerically, often complain of being excluded from meaningful involvement in such activities.

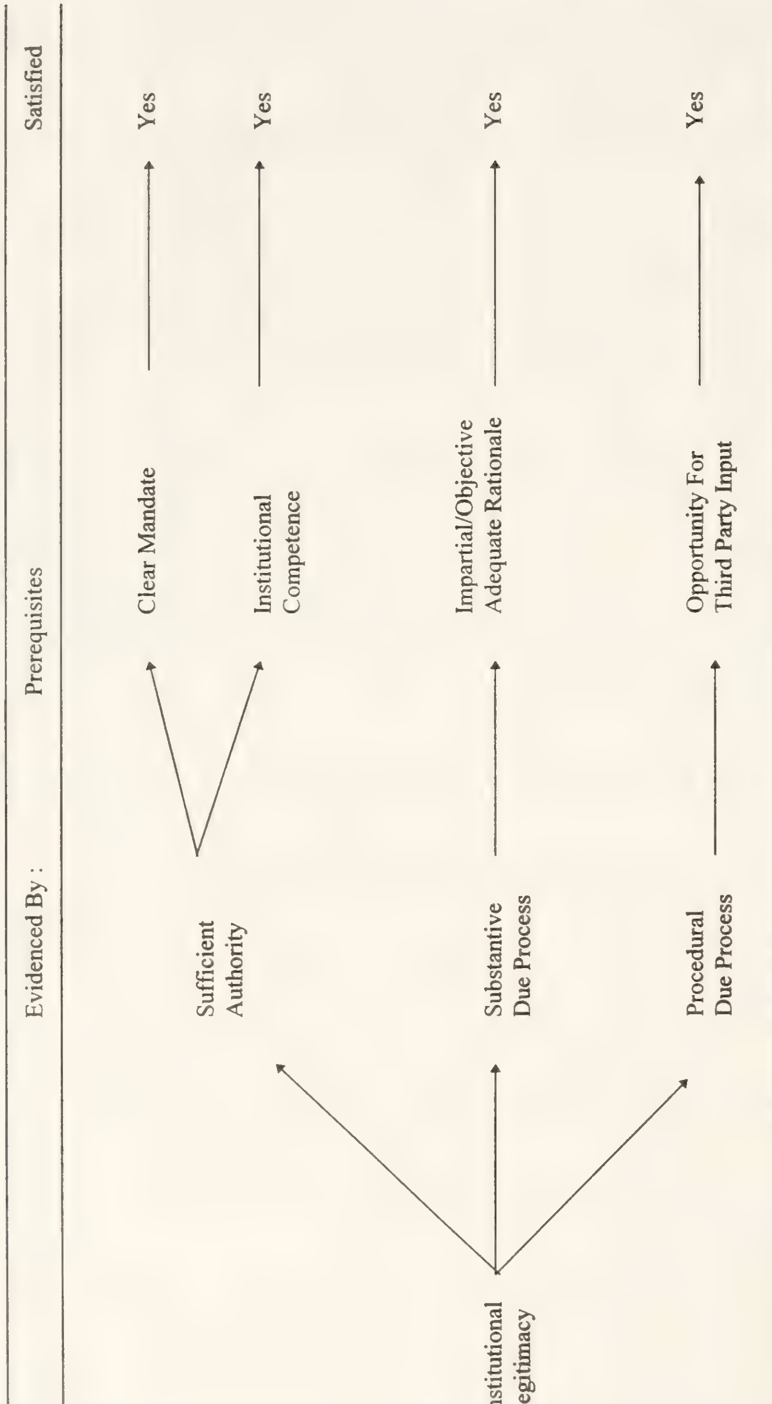
Whilst acknowledging that IASC procedures are already slow and that the issues are complex, the participation of LDCs in the process is important. It is unfair to exclude LDCs from the developmental process of the standards on the basis that it is sophisticated and that they have little to offer, and then expect them to develop their accounting system by adopting IASs. A balance of process is needed and it is suggested that a reason the current mechanism has been slow and only moderately successful is an absence of balance.

Increasing the range of participants is likely to raise the relevance and suitability of the standards to a greater number of environments. This would reduce the present influence of a few Anglo-Saxon nations and self-interested major multinational business corporations and accounting firms in the determination of IASs. Such a situation would have a positive impact upon the IASC's legitimacy. Further, opening up the process would help to diminish the possibility of regulatory capture of the IASC by interest groups (Wallace,1990). As such the adoption of the convention approach has significant political and procedural advantages for accounting. It may assist in overcoming the IASC's perceived lack of Sufficient authority and absence of Substantive Due Process identified in the analysis of institutional legitimacy. This would help to alleviate the concern of the developing world suspicious of groups such as trans-national corporations. Figure 4, A Remodelled IASC, illustrates the potential impact of the proposed changes upon the institutional legitimacy of the IASC.

The discipline of accounting would be enhanced by the adoption of the convention system as the importance and relevance of accounting standards would also be elevated in status. The standards would move from the arena of professional accounting bodies to international government negotiation. The process would be more likely to lead to a more widespread acceptance of the IASC standards than is currently enjoyed.

No system of standard setting will be completely able to overcome issues of nationalism and aspects of diversity. What should be strived for is a method whereby the factors that currently hinder the mobilisation of harmonisation can be minimised or negated so as to allow progress. A potential criticism of the suggested path facilitating greater government level involvement is the perceived unhurried pace of government negotiations relative to the private sector. To expect such issues to be resolved quickly is to ignore the complexities involved. The important aspect of any method adopted is that at the end there is an enforceable agreement in place. The current path to harmonisation is slow. The IASC was formed over twenty years ago, and provides no path to an enforceable agreement. There is, however, evidence that government negotiations are able to resolve issues more complex than the harmonisation of accounting standards, for example, the international tax convention, the GATT negotiations, and the EU.

A second criticism of the suggested path is based upon the ability of government organizations to produce quality accounting standards that will enable accounting to best serve society. Some suggest that whilst governments are efficient in issuing edicts, the quality of these may suffer as a result of compromises based upon the lowest common denominator. These concerns may be based upon philosophical questions about private versus public



Notes: Adapted from Johnson and Solomons (1984).

Figure 4. Framework for Instituational Legitimacy—The IASC.

sector approaches to standard setting. In anticipation of such concerns it is worth noting the well documented poor quality of many initial IASs. In fact, the questionable quality of standards is sometimes cited by the SEC, IOSCO and the FASB as reasons for non-acceptance of IASs. Whilst there is no documented evidence that a new government based regime will automatically produce good standards, there is, however, evidence of poor quality standards under the private sector based IASC. The paper does not argue that the proposals are a panacea but it does suggest that other possibilities or configurations should be considered.

Whilst the development of standard setting structures with government authority in individual nations, for example, the USA and Australia, ie. government involvement to give legislative support for accounting standards, lends support for the mechanism proposed in this paper, stronger evidence is provided by the EU experience. The harmonisation of accounting within the EU has been raised to the level of government negotiation. It may be argued that given the existence of contentious issues such as the inclusion of a "true and fair view" in financial reports, only at this level could the Fourth (Annual Reports), Seventh (Consolidated Accounts), and Eighth (Auditor Qualifications) Directives have been successfully negotiated. The GATT negotiations are important to world trade as they affect 85% of world trade. By 1990, GATT negotiations had managed to reduce import tariffs from an average of 40% to less than 10% of the value of imported goods and have thus been largely removed as a barrier to trade (Christians,1989). Such an achievement was only possible at the government level.

Finally, government support would be necessary to fund the requisite expansion of the IASC. Elevation of accounting harmonisation to international negotiation by governments should lead to an increase in the allocation of resources to the processes. If the IASC were to become aligned with the UN and national governments, and was viewed as the central development and co-ordinating agency, the financial impediment noted by Wallace (1990) and Nobes and Parker (1995) could be overcome. Such a role for the IASC, analogous with that of WIPO, could also create savings by eliminating duplication of accounting standard research around the world.

CONCLUDING REMARKS

The IASC has itself acknowledged the search for alternate structures. For the IASC, the involvement in a convention system would raise its profile and perhaps lead to some attachment with, and encouragement from, the United Nations. Ultimately, the convention, if adopted, could prove to be successful as it provides the necessary impetus for harmonisation to move forward by enlisting crucial government support. The Treaty of Rome, which formed the European Economic Community, and the intellectual property convention, provide precedents for the co-operation which can be achieved via the mechanism outlined above. The basis for meaningful progression exists. The current IASC provides the convention method with an existing framework. This framework does not need to be dismantled and rebuilt, merely modified. Further, the IASC and accounting bodies have already produced large volumes of accounting research. Therefore, the international accounting wheel does not need to be reinvented; again, only modification may be required.

Currently, the IASC has little or no capacity to manage the external environment. This impacts upon its institutional legitimacy. It is proposed that the possibility of an International Accounting Standards Convention as presented in this paper may go some way to overcoming the obstacles confronted by the IASC in its current format. The accounting profession's role as standard setter may be at a crucial point. The profession may choose to oppose any alteration to existing structures and powersharing arrangements, with the probable result that the profession would be forcibly disenfranchised from the standards process. Such a situation would relegate the profession to the role of subservient technicians. An alternative path does, however, exist. By objectively reappraising its structure and legitimately empowering other interested participants, the profession, via a restructured IASC, will be able to remain at the forefront of accounting standard setting and research. The prospect of significant participation appears more attractive than capture.

This paper has provided a discussion only at the broad, global level. The challenge now for the IASC is to convince governments and other interested participants of the benefits of such a proposal. This will necessitate enlisting the support of international business and bringing to governments attention the benefits that have flowed to international trade as a result of similar practices in other areas such as law. Once the framework is fully considered and agreed upon, the specifics of this proposal can be addressed. This may involve restructuring what we currently know as international accounting standards. This paper has outlined some models or conventions that may be suitable for such a purpose.

NOTES

1. Tay and Parker (1990) developed a continuum to depict the harmonisation /standardisation process. The continuum was bounded at each end by the opposing positions of *total diversity* and *uniformity*. Harmonisation was defined as the process by which financial reporting moved along the continuum away from diversity towards uniformity.
2. See Chandler (1992), Nobes and Parker (1995) for a discussion of the expected benefits of harmonised financial reporting to these groups.
3. Both Hopwood (1994) and Thorell and Whitington (1994) acknowledge the political nature of the harmonisation debate.
4. For measurement studies see Nair and Frank (1981), Tay and Parker (1990), van der Tas (1988) and Evans and Taylor (1982), Purvis, Gernon and Diamond (1991).
5. See for example, Chandler (1992), Wolk and Heaston (1992), IFAC (1992), Hove (1986), and Rivera (1989).
6. This was acknowledged by the Sir Bryan Carsberg, Secretary-General of the IASC, in a Plenary Session address at the International Accounting Research conference at the Warwick Business School, May, 1996.
7. For a more detailed discussion on the issues of world trade and intellectual property, see Schott and Mazza (1986), Bier and Schricker (1988) and Gibbs and Mayshayekhi (1988)
8. A necessity, noted by Carsberg (1997) when he suggested that the IASC would have to decide if it wanted to be a committee of professional organisations or an international standard setting body.

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Book Review

Environmental Accounting for the Sustainable Corporation: Strategies and Techniques *by Daniel Blake Rubenstein, Quorum Books, Westport, Connecticut and London, 1994, $55.00, 207 p.*

Environmental Accounting for the Sustainable Corporation: Strategies and Techniques is innovative, challenging and timely. The author, Daniel Rubenstein, presents an accounting driven solution to help manage a difficult business situation, namely corporate sustainability for companies operating in the renewable natural resources industry. Corporate sustainability, or sustainable development, means "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Rubenstein provides a thoughtful and provocative solution to the management dilemma of being both profitable and sustainable. He challenges us, as accountants, managers, environmental activists and legislators to innovate, adapt, and cooperate with each other and offers his approach to sustainability accounting as a tool to help manage our natural resources and guarantee availability of these resources for future generations. Simply put, the author's objective is to present a model of environmental accounting that could be used by corporations aspiring to be sustainable. He shows us what accounting for sustainability could be and in doing so, builds upon our existing framework by expanding (not overturning) the current accounting model to meet the information needs of all stakeholders in sustainable natural resource management.

The format of the book, as the fictionalized story of Jack Carruthers, manager of a Canadian forestry management company and his partner in profitable sustainability, Walker Stone-corporate controller, is in style written like a novel. We are privy to Walker's thoughts as we follow Walker, the principal character, throughout the book as he develops the sustainability accounting model while working with Neil, the environmental activist; Len, the staff organic chemist; Mike, the forester and the managers of Blackmore and Price. Rubenstein's analysis is a very solid theoretical development of the problems facing this fictional forestry management company and the proposed solutions that can be implemented. Their problems are environmental pressures: pressure from environmental groups to be accountable, pressure from shareholders for profitability, political pressures as government regulations for zero-pollution proliferate, and competitive pressures as exports and pulp paper prices are falling dramatically and the industry struggles with tremendous overcapacity. Rubenstein's proposed solution is an action plan for corporate change and the adoption of nontraditional accounting for sustainable development that includes a balance sheet with intergenerational liabilities and full product costs that includes the natural resources consumed in production.

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This book is best read front to back and in its entirety. The author takes us logically from problem statement through an analysis based on existing research, industry publications and in-depth interviews with a leading forestry management company to the final chapters on reporting to the board of directors and shareholders. The purpose of the book is to demonstrate how environmental accounting could serve the needs of a corporation wanting to be sustainable over the coming decades. The author achieves this objective.

Chapter 1 gives us conflict, as we listen in on the battle raging between the forestry industry, environmental activists and the government. Environmental activists want less clear cutting, more conservation, protection of wildlife habitat and corporate accountability while the forestry company managers want recognition of their operating constraints as they struggle to be profitable and provide jobs. The crux of the issue is whether the corporation is practicing sustainable development, which is "a marriage between business and the environment that allows business to make a reasonable return *and* ensure that natural resources are preserved for future generations." Both protagonists realize this means, from an accountability point of view, that information is necessary to bridge the gap between the tree hugger's and the tree cutters'. Accountants can provide this information, and the rest of the book takes us on a path discovering how to and why accountants should provide this information.

Chapter 2 reviews the limitations of traditional accounting insofar as it does not currently provide the needed information for a sustainable developing corporation. A discussion of the Exxon Valdez, Hooker Chemical and Love Canal, and the Union Carbide incident in Bhopal, India remind the reader that accounting is not even very well equipped to report the cost of these incidents *after* the event, let alone able to estimate the costs versus benefits before they happen. Our existing definitions of assets and liabilities are challenged. Assets, now defined as "a potential future benefit obtainable by a particular entity resulting from past transactions or events" does not encompass future economic benefit obtainable by someone outside the particular entity. Our current working definition of an asset does not include natural capital such as the air, lakes and land where, for example, Hooker Chemical dumped its waste. While the entire book is insightful reading for anyone, this chapter is especially well-suited to students in an accounting theory course as a starting point for a discussion about current historical cost based accounting models and our alternatives, especially when reporting contingent liabilities.

Chapter 3 provides a guide to our current level of environmental accounting, with three themes emerging. First, accounting may be providing incomplete information to corporate decision makers; second, there is a need for better measurement and reporting of environmental obligations; and third, any definition of full cost should start to include the costs of natural capital. Environmental accounting is more than just issuing an annual report about the environment, and the main drawback to the environmental disclosure option is that there is no accounting for the full costs of products or services to include the costs of natural resources that are consumed during production. The axiom, 'What is measured is what is managed' implies full costs that include the cost of consuming natural resources are critical for resource allocation decisions in a market driven economy *if* we truly value our natural resources. Walker redefines assets, liabilities and expenses to include the concept of natural resource management. The definition of an asset is expanded so assets would also include the natural capital upon which a reporting entity is economically dependent, and similarly, the definition of a liability is expanded to also include the risks associated with the con-

sumption of natural capital. Expenses, as expired assets, now would also include the consumption of natural capital, including the preventive maintenance costs associated with the maintenance of the natural capital essential to a going concern corporation.

Chapter 4 is a concisely informative chapter regarding sustainable development and how this concept differs from environmental management. There is no one definition of sustainable development, but rather it exists as a continuum of subjective interpretations, each with a different set of capital and operating cost implications. Each definition establishes a different tradeoff point between the two extremes of rapid high-impact development and preserving nature. At the end of chapter 4 Walker believes it is technically feasible to compute fuller costs that measure the natural capital consumed in pulp and paper operations. The majority of the book, chapters 5-11, is then spent describing the journey Walker's multidisciplinary team of experts take as they work to develop an accounting model that could provide information necessary for informed sustainable development.

There are 23 figures and 12 tables in this text and each one is invaluable. The figure in chapter 5 provides a road map for developing nontraditional accounting systems. The road map starts with a need to establish environmental investment strategy, travels through the cities of stakeholder analysis, standards for sustainable development, risk assessment and management, determination of fuller costs and intergenerational liabilities. The destination is a list of the options available regarding the level of environmental investment. Chapters 6-11 develop the analysis outlined in chapter 5. Chapter 6 discusses the visible and invisible stakeholders with economic and survival interests in the organization. The focus of Chapter 7 is an overview of the concepts of natural forest management. Boreal forests exist in Canada, Alaska, Siberia and Scandinavia and cover an estimated 11.3 million square kilometers (an area larger than Canada). A theme throughout the book emphasized in chapters 7 and 8 is that valuation of the boreal forest means understanding its ecology.

Chapters 9, 10 and 11 are the most important chapters in the book. Chapter 9 presents Walker's approach to value the forest in monetary terms. He "starts with a model that most closely resembles the traditional historical accounting model and tries to expand it to account for a living asset." After reviewing the literature for possible valuation models (income method, discounted cash flow (dcf), conversion return, dcf, market method and cost method value by components) Walker's team select a modification of the income method and work for consistency and comparability in their calculations. While chapter 9 focuses on accounting for a sustainable forest, Chapter 10 focuses on a sustainable pulp mill with zero environmental impact. Accounting for pulp mill operations implies two options: to focus on the costs of cleaning up past and present toxins or to examine the cost of preventing future cleanups. Scientific uncertainty exists as to the level of harmful effects of past waste dumping; if toxins are in the environmental then an intergenerational liability exists and should be recognized. Accounting for sustainable development, with the objective is to create a sustainable organization, means accounting for full costs that include natural resource consumption and intergenerational liabilities even in the presence of scientific uncertainty about long term pollution effects or technological advancements. Chapter 11 applies risk management principles to the costing of natural capital by including in the full cost model self-insurance costs, perceptions management

costs (customer expectation driven costs), possible conversion costs and known conversion costs.

Carruthers and Walker Stone are the heroes of today's business, the manager who wants to stay in business operating ethically and conscientiously and the accountant with the toolbox and creativity to provide a solution to the problem of sustainable development. This book is extremely relevant for managers, accountants (practicing and academic) and all corporate stakeholders. It is well-written: clear, concise and with an accounting sense of humor, as when, for example, Jack Carruthers tells Walker he knows Walker can find a solution to their problem, as, after all, he has seen him be creative at fiscal year end! (within GAAP, of course). The final chapter is proactive: How do I apply this in my work? The accounting model developed by Rubenstein *can* be generalized to other industrial sectors and the concluding chapter provides a road map for starting the cultural change that is absolutely necessary to continue to develop nontraditional accounting systems. The process requires top management support for a project to develop nontraditional accounting systems within the organization that provide the information necessary to manage a corporation's environmental assets. The basic steps outlined are creating a multi-disciplinary team, listening to those with a perceived stake, defining corporate accountability, translating the broad definitions of accountability into specific standards (the most important step) and finally preparing the balance sheet of intergenerational liabilities. Given that the objective is to create a sustainable corporation, the reasons to work for a better accounting for the environment are better decisions, better stakeholder management and an approach to deal with the ambiguity and scientific uncertainties facing a corporation. Sustainable development implies a corporation with long range vision, sustainable profit and an expanded definition of corporate assets that includes the natural capital used by the firm.

While easy to read in style and exposition, the book is challenging in content and may make you uncomfortable if you dislike contemplating change, or motivate you if you prefer innovation and evolutionary thoughts about accounting as a discipline and social science. This book does challenge us: to change our way of thinking about accounting and how we, as accountants, measure or do not measure assets, liabilities and income and how we, as managers use the information accountants provide and encourage (or do not encourage?) the production of relevant information for environmental management decision making. In the afterword of the book, Rubenstein succinctly reminds us that accountants value fixed assets because society values tangible assets. "Accountants do not value air or water because our society does not value them in the same way." It is time to value air, water and our other resources of the natural world and accountants *can* make a difference through our approach to valuation. This book presents a path to a future of accounting that will be built upon existing theory, but of necessity is adaptive enough to encompass the wider, more relevant boundary area of measuring, valuing and reporting for natural resources within the corporate reporting framework.

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Readings in Accounting in the European Union, *edited by Antonio Socias, Palma, Spain: Universitat de les Illes Balears (University of Balearic Islands), 1996, pts 2,000, 253 pages.*

Accounting in the European Union focuses primarily on various aspects of accounting harmonization and diversity, with emphasis on the impact of the Fourth, Seventh and Eighth Directives of the European Union (EU) on EU member countries. What makes the book unique is that each of its twelve papers focuses on various aspects of accounting from more of a Spanish perspective. Twenty authors are involved in this collection of papers and at least one Spanish author participated in the writing of each chapter. Not surprisingly, the emphasis in many chapters is on the accounting rules and practices of Spain and how they relate to or compare with other countries, the EU and/or the International Accounting Standards Committee (IASC). Overall, the authors have drawn their information from a large and diverse literature and present some topics in different ways and with new information and analysis.

The book's theme concentrates on harmonization within the EU given the EU directives. While noting that the implementation of the three major EU accounting directives caused an increase in accounting harmonization within the EU, the book repeatedly demonstrates that the large number of options allowed by those directives has allowed great accounting diversity to remain among the 15 EU members. This lack of accounting comparability exists both in terms of accounting rules and accounting practices.

The editor groups the 12 papers in five topic areas: European accounting standardization in general or various Directives (2), the Fourth Directive (4), the Seventh Directive (1), the Eighth Directive (1), and other problems (4). While some papers focus on actual company practices (*de facto*), most papers examine harmonization with reference to different countries' legal accounting requirements (*de jure*). The book is structured so that every paper begins with an abstract followed by an outline of the paper. Each paper concludes with a reference list.

The first two papers take a broad look at European accounting. In "European Accounting Harmonization: Results, Current Works and Future Developments," the book's editor reviews the historical progression and research on the subject, both *de jure* and *de facto*. Socias advocates that European accounting be improved within the framework of the EU and its committees. It provides insight into the operations of the EU's Contact Committee and Accounting Advisory Forum. Socias notes the lack of comparability with current EU directives and urges renewed work within the EU on accounting after many stagnant years with no progress.

"Financial Statement Analysis: A European Perspective" examines six similar companies from six EU countries in both their own GAAP and Spanish GAAP. In their detailed analysis, Canibano and Giner found a definite lack of comparability. This is significant given that their study occurred after the implementation of the Fourth and Seventh Directives in the different EU countries.

The next four papers analyze various aspects of the Fourth Directive. "The Degree of Accounting Harmonization in Europe: A Proposed Measurement Methodology" tests *de facto* harmonization using data from the 341 European companies included in the 1991 FEE study. Garcia-Benau proposes her own harmonization index measure that expands on the work of Van Der Tas. She finds that a great deal of accounting diversity still exists in the EU.

"An Example of the Consequences of the Options included in the Fourth Directive: The Formation Expenses" examines the *de jure* rules in this area for most EU countries. Mauleon finds a large amount of accounting diversity, highlighting the common result of having either gaps or options in EU Directives. Mauleon then proposes a particular accounting treatment for the costs incurred when organizations are formed.

In "A Comparative Study of Italian and Spanish Annual Accounts After the Implementation of the Fourth Directive," Herranz and Socias compare the *de jure* standards of Italy and Spain. In "Differences in Accounting and Reporting Standards for European Small Businesses: A Comparison Between France and Spain," Moneva and Chauveau thoroughly examine the *de jure* rules in each country and outline their historical progression. Both papers find that significant accounting diversity exists after the implementation of the Fourth Directive.

The next paper focuses specifically on the Seventh Directive. "Consolidated Accounts in the European Union: Current Situation and Reform Perspectives" carefully analyzes the *de jure* rules of the Seventh Directive as implemented by EU member states. Condor and Blasco found that the current rules for determining which entities must be consolidated vary significantly among EU countries.

The Eighth Directive is closely examined in "The Structure of the Audit Profession in the European Union after the Implementation of the Eight Company Law Directive." This article provides a comprehensive and up-to-date examination and explanation of the current situation in the EU. Robleda and Robles detail the different types of auditors and their requirements for certification in all 15 EU countries. While more uniformity has been achieved, major differences exist among the EU countries in order for a person to become a qualified auditor.

The last four papers focus on various other accounting problems. "Significant Errors and Changes in Accounting Methods: Pros and Cons of the Conflicting Solutions" analyzes the different *de jure* solutions to these issues, with emphasis on the standards used by the IASC and Spain. Gonzalo and Lainez also consider the merits of the different accounting treatments.

"The Accounting Treatment of Communication Activities" suggests that logical accounting standards should be developed to capitalize some of these costs as an intangible asset. First, the paper discusses current common communication tools and how they relate to the concept of an Integrated Communication Policy (ICP). The paper then suggests an interesting and well-documented framework for attempting to quantify what costs associated with an ICP should be capitalized. Catala, Vegas and Socias propose that only ICP expenditures with a long-term time frame should be shown as an intangible asset on the balance sheet.

In "On the Comparison of U.S. GAAP, IAS and Spanish Accounting: Some Empirical Effects," Juan Rivera and Jose Lainez examine these differences in terms of both *de jure* and *de facto*. First, the paper reviews IASC and US standards and notes that while IASC standards are often closely related to US standards, that the US essentially does not allow use of IASC standards within its jurisdiction. Next, the paper examines key differences between Spanish accounting norms and both US GAAP and IASC standards. Then the paper turns to five Spanish companies that have ADRs listed and traded in the US and compares their Spanish GAAP financial statements with their US GAAP financial data filed with the US Securities and Exchange Commission.

"The Relationship Between Tax Regulations and Financial Accounting: A Comparison of Germany, Spain and the United Kingdom" examines that relationship after those countries implemented the EU accounting Directives. While Germany still retains its close links between tax and financial accounting, Spain has officially dropped its formal linkage between the two, although some ties still exist. Interestingly, Blake, Amat and Forbes believe that the UK's dualistic image may be misleading. While the UK does not have a binding link between tax and financial accounting, the authors found that tax factors have a variety of powerful impacts on UK accounting regulations.

The primary audience for the book is academic researchers. The book discusses important issues in international accounting from a different perspective that many researchers should find interesting. Overall, the papers tend to be quite detailed in describing accounting and related issues in Spain and other European countries. The articles are as up-to-date as is possible with a 1996 copyright date. The articles also reference many accounting sources in Spanish that are probably unfamiliar to most English speakers. As their reference lists also include many pertinent English language publications, they may also be useful to newer researchers in these areas. As several articles are based on papers originally presented at conferences in Europe, many non-European researchers may be unaware of this literature. This book provides a great service in enhancing their accessibility.

The book is not really designed to be used as a textbook and is too narrow as the sole text in an international accounting course. But given that the book is a good reference resource, it could be used for modules that examine Spanish accounting or that explore European accounting harmonization. However, the frequent use of UK accounting terminology may cause some problems for US students and some articles may be difficult for students to understand.

While the book has many strengths, it does have a few limitations. As with any collection of papers, some are stronger than others in their methodology and analysis. For example, some papers only review Spanish literature, ignoring relevant English language literature. While the authors should be commended for making the effort of translating their work into English, as with any work that involves translation, some points could have been more clearly expressed. Finally, the book needs to be proofed more carefully before its next printing. For example, the large number of typographical spelling errors was distracting to this reader. These problems detracted from the book's overall quality.

Overall, the book provides interesting looks at both Spanish accounting and European accounting harmonization from a Spanish perspective. Academic researchers should appreciate this new source of detailed information on an area often overlooked in international accounting. While some might argue that the book focuses too narrowly on Spain, the book's strengths are its detailed explanation of Spanish accounting and its ability to present a different view of international accounting issues and European accounting practices. Interestingly, but not surprisingly, both the empirical papers and the more descriptive papers support existing literature that documents the widespread accounting diversity in Europe. The book is a welcome addition to the English language international accounting literature.

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Accounting Education in India *by Bhabatosh Banerjee, DSA in Commerce, University of Calcutta, 1994, $20.00, pp. vi + 205.*

This small book is full of interesting questions, provides some surprising details, but fails in being either a comprehensive source book or a prescription for action.

The author, who is Professor of Commerce at the University of Calcutta, is one of India's leading academic accountants and a past president of the Indian Accounting Association, hence well-qualified to write this book. However, it would have been helpful if the target audience(s) had been specified since it is not clear whose views the author is seeking to influence. A research scheme of the Department of Special Assistance (DSA) in Commerce, sanctioned by the University Grants Commission, New Delhi, enabled the University of Calcutta to sponsor a project entitled *Accounting Education in India: A Critical Estimate of the Existing System and its Possible Improvement.* The book under review is the outcome from this project and appears to have its origins in the view offered by the author in his Preface in which he states that accounting education is '...presently at the cross-road demanding the collective thought of academicians and professional accountants for a more pragmatic reorientation and improvement'. It is not immediately clear why accounting education is at a cross-road or why - given the emphasis on education - any reorientation should be pragmatic. These points are not clarified in a satisfactory way in the six chapters which make up the monograph.

The constituent chapters are not in a sequence which is explicitly justified or logical in a self-evident way. At many points in the book it would have been beneficial for clear cross-referencing to have been made since some themes are recurrent but — in the absence of both adequate cross-referencing and an index — it is difficult to make the necessary linkages.

Chapter 1 (*Introduction*) begins by locating accounting within the context of economic development. If accounting can serve some useful purpose in measuring economic activities, designing and evaluating development plans and policies, and improving the management of national resources then it is clear that enhancing the educational base of accounting practice is likely to be beneficial. Banerjee points out that there have been no serious attempts prior to 1994 to study accounting education in India. Against this background the broad objective of his study is to examine the state of accounting education and suggest ways and means for its development. He relates this to a range of issues which are, in the event, too broad and hence many are not fully addressed within the limits of this short monograph.

At various points in the book attention is paid to the objectives of education. Initially (pp. 8–9) the focus is on commerce education which has sought, inter alia, to develop knowledge of the principles and practices of commerce, cultivate a certain quality of mind and attitude to life, and to prepare students for specific functions related to work and living (which is said to distinguish it from Arts or Science education). This highlights a distinctly vocational thrust. The opening chapter provides an informative overview and highlights the strong British influence in establishing accounting practice in India which, more recently, has been overtaken by a strong US influence in the field of accounting education.

Chapter 2 (*The Role of Professional Institutes in the Development of Accounting Education*) deals with the origins of professional accounting bodies in India. In this context the author exhibits a tendency which characterises much of the book: on p. 20 he lists some pre-requisites for a successful accounting profession in a developing country based on an

article published in the USA in 1962. Lists such as this tend to be both unchallenged and untested yet it is not obvious that they are adequate in terms of, for example, comprehensive coverage or validity over time.

There is, within Chapter 2, a long section (pp. 28–43) dealing with standard setting. This is not linked in any way by the author to the theme of accounting education, hence one might reasonably wonder whether it is fundamental to accounting education. Another problem arises over the inclusion of outline syllabi for the major professional bodies in India, details of the numbers of students (and members), but nothing about how the education and training of the students is delivered.

Chapter 3 (*Accounting Education at the College and University Levels*) indicates that commerce education began in India in 1886 and has developed considerably since then. For example, during 1987–88, there were 881,836 students enrolled on commerce degree programmes at Indian universities. (Of this total 820,100 were undergraduates, 60,238 were studying for master's degrees, and 1,498 were doctoral students.) Making more sense of these figures is difficult since commerce includes accounting but is not synonymous with it. Some information is provided in Chapter 5 regarding the pattern of PhD awards at specific universities in India since 1947. However, the lack of cross-referencing and the data in different parts of the book being presented in ways which do not facilitate comparison makes for a somewhat murky picture.

In 1989 the Curriculum Development Centre in Commerce (set up by the University Grants Commission in India) made recommendations regarding the restructuring and reframing of various University level courses in commerce on a national scale (pp. 62–63). The specification of, in effect, a national curriculum might seem unwelcome in many parts of the world but the author applauds this initiative and, in Chapter 6 (pp. 199–200), it is reported that some 91% of respondents in a survey undertaken as part of the overall project expressed approval of uniformity within both the undergraduate and postgraduate syllabi.

The support of uniformity should not be confused with complacency since the author is perceptively aware of significant omissions from the curriculum. For instance, given that India is predominantly an agricultural country, Farm Accounting can no longer be excluded. In addition, Public Sector Accounting, Government Accounting, and Ethics in Accounting would all enrich the utility of the curriculum.

In considering how accounting education might be improved in India Banerjee draws on one of his earlier publications to highlight a range of structural and environmental problems in the existing system. These range from the best students favouring engineering or medicine, accounting not being seen as an intellectual discipline, and ineffective teaching methods. Such problems are not peculiar to India! However, Banerjee goes on (pp. 70–74) to suggest some remedial measures for dealing with the problems which he has identified. One contribution to the development of accounting as an academic discipline rather than purely a set of business practices is the emergence of associations which allow for a constant exchange of ideas between academics and practitioners. The Indian Accounting Association — which was set up in 1970 along the lines of the American Accounting Association — has been striving to bring educators and practitioners together but, as in other countries, there is little real rapport between the two groups. (This lack of effective rapport is another constant theme of the book which, in the absence of cross-referencing, is difficult to follow.)

Within both Chapter 2 and Chapter 3 there are several examples of syllabi. These are typically presented as 'laundry lists' with no indication of the intended learning outcomes or of any mechanisms which exist for integrating the parts into some emergent whole.

Chapter 4 (*Contribution of the Corporate Sector to the Development of Accounting Education in India*) focuses rather more on regulatory issues and reporting practices than on education issues. It is suggested (p. 110) that a closer interaction between the corporate sector and academic institutions is necessary to resolve differences from which improved reporting practices will stem. These suggestion seems to be that new graduates are the most appropriate means of generating closer interaction on the grounds that they will be able to bring their 'academic' skills to bear in modifying corporate accounting practice. One cannot help but wonder if the problems of cultural orthodoxy which inhibit this process in other countries do not prevail in India. For example, is the lack of seniority of new entrants not an inhibitor of their acting as change agents? Do organisations in India not exhibit inertia in relation to changes in accounting practices as one finds elsewhere?

Chapter 5 (*Accounting Researches in India: In Retrospect and Prospect*) looks to the past in order to see the future of accounting research in India. In doing this Banerjee reviews both the number of PhDs in commerce/accounting in recent years and the range of topics addressed within the accounting domain. He identifies weaknesses in the quality of research in accounting in India and offers some constructive suggestions for improvements (including a greater emphasis on conceptual work and the need for more attention to be paid to aspects of research design). In addition, he identifies (pp. 140–154) some gaps in existing research coverage which would benefit from investigation by doctoral candidates in the future. Among these gaps is accounting education itself. He concludes this chapter by looking at the vital question of integrating research with teaching in order to help in the balanced development of accounting education. It is pointed out in Chapter 6 that the majority (51%) of accounting educators in India do not subscribe to even one accounting journal, and only 19% subscribe to more than one accounting journal. The position with regard to libraries is equally unsatisfactory, hence there is a serious uphill challenge if research results are to be brought to the attention of students when it is likely that most of the teachers are unaware of new developments.

Chapter 6 (*An Empirical Study*) is the final chapter and seeks to offer views on the intricate issues of accounting education from a sample of accounting educators on the one hand and practitioners on the other. A conspicuous gap was apparent in the views of these two constituencies regarding the primary objective of accounting education. Practitioners saw it as being the solving of business problems whilst educators saw it as being the development of human resource in the area of accounting in keeping with societal needs. The absence of adequate rapport between practitioners and educators suggests that reconciling these divergent views will not be easy and the suggestions made (pp. 180–181) for improving rapport do not seem likely to bridge the gap at all.

Within the text there are various ambiguities (such as the inclusion of commas in unlikely places within arrays of data — p. 26, p. 59; and the statement on p. 65 that the aim of accounting education should be to produce accounting academics, researchers and academic accountants whereas the empirical evidence cited on p. 176 indicates that both practitioners and educators share the view that producing accounting educators is the least important objective of accounting education). There are occasional factual errors (such as the assertion on p. 97 that the FASB is part of the AICPA) which should not have slipped

through. In general the book would have benefited from both closer proof-reading and editing by a grammarian. An index would have been useful for reasons already mentioned.

Greater discrimination and rigour over the content and its interpretation would have been of value. In their absence the book ultimately fails to present an agenda for change, although it gives some pointers for developing such an agenda.

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ARTICLES

BOOK REVIEW

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Factors Affecting Transfer Pricing and Income Shifting (?) Between Canadian and U.S. Transnational Corporations

Susan C. Borkowski
La Salle University

Key Words: Income shifting, transfer pricing

Abstract: *An analysis of organizational, environmental, and financial factors indicates that income shifting may occur among TNCs in the United States and Canada. Some differences in rates of return are partially explained by the larger U.S. TNCs, which experience higher rates of return and prefer non-market methods. Smaller Canadian TNCs, with lower rates of return, prefer market methods.*

Do U.S. TNCs enjoy higher rates of return due to income shifting spurred by differentials in effective tax rates between the U.S. and Canada? Are transfer prices used to manipulate income and minimize tax payments? Are the higher return on sales and income enjoyed by domestic subsidiaries of Canadian TNCs due to income shifting from their U.S. subsidiaries? In this study, the differences in financial measures, coupled with the audit history of U.S. TNCs, may provide some evidence of income shifting.

INTRODUCTION

Transnational corporations (TNCs) create subsidiaries to lower manufacturing costs on a global basis by strategically exploiting technological advantages, reputation, trademarks, brand names, and economies of scale (Rome, 1992). Establishing cross-border subsidiaries should "increase the stock of investment and capital ... provide employment opportunities and tax revenues, increase national output ... raise welfare ... [and] transfer technology by the simple process of establishing factories to produce goods using new technology" (Rugman, 1985, p. 179).

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Transfer pricing is one technique used by TNCs to optimize these strategies. However, transfer pricing manipulations are constrained by tax regulations that theoretically prevent income shifting among subsidiaries to minimize and/or avoid taxes on income.

An underlying assumption of most tax authorities is that TNCs are able to shift income to and from subsidiaries to reduce and/or avoid host/home country income taxes. Non-U.S.-based TNCs may understate their U.S. taxes by $11 billion annually, part of which is attributable to transfer pricing practices (Ernst & Young, 1993). TNCs in Japan, the United Kingdom and Canada consistently reflect the highest Internal Revenue Service (IRS) adjustments to their reported taxable income.

At issue is why TNCs choose a particular transfer pricing method. Do organizational and environmental factors influence a TNC's choice, or are methods chosen primarily to facilitate income shifting? Are financial factors of any consequence in the decision? Perhaps tax regulations override all factors, and the extent of income-shifting is exaggerated. However, if income shifting is the prime motivator, transfer pricing regulations must be rewritten to preclude such behavior and ensure fair and equitable distribution of tax revenues to both host and home countries.

This study extends previous research on transfer pricing choice in two ways: first, individual cross-border effects are isolated and analyzed; that is, practices of Canadian TNCs with U.S. subsidiaries are compared with that of U.S. TNCs with Canadian subsidiaries. Second, financial measures, usually absent from transfer pricing research, as well as environmental and organizational influences, are analyzed with reference to transfer pricing method choice and for possible evidence of income shifting. Canadian-U.S. practices are analyzed because Canada is among the largest U.S. trading partners; is geographically proximate, economically similar to the United States, and affected by NAFTA tax and tariff stipulations; and its TNCs have had large IRS adjustments due to understatement of income. The regulations and factors affecting the transfer pricing of intangible property differ from those for tangible goods; therefore, this study is limited to the transfer of tangible goods.

Substantial income adjustments and tax penalties assessed by U.S. and Canadian tax authorities on TNCs result from transfer pricing policy disagreements. Transfer pricing affects decision making both internally (providing data to motivate subsidiary managers and evaluate both manager and subsidiary performance) and externally (affecting the rate of capital repatriation, the overall tax burden, and the shift of profits to minimize tariffs, duties and income taxes on a global basis) (Rome, 1992). Are Canadian and U.S. TNCs driven by internal factors, external factors, or some combination when choosing a transfer pricing method? Is income shifted between countries to minimize the TNC tax burden and deprive the tax authorities of their appropriate revenue? The findings of this study may have implications for U.S. and Canadian transfer pricing law and tax treaty conventions.

The next sections present the rationale for subsidiaries and current Canadian and U.S. transfer pricing regulations. A summary of relevant literature is then presented, followed by a discussion of the variables and methodology of the study. An analysis of the data is then presented, ending with conclusions and the research and policy implications of the results.

WHY CANADIAN/U.S. CROSS-BORDER SUBSIDIARIES?

Several motives drive TNCs to establish cross-border subsidiaries. Many Canadian-based TNCs "have firm-specific advantages in the production, distribution and trading of resource based products," which in the past were positively exploited by exporting, rather than by foreign direct investment (FDI) in the U.S. (Rugman,1986, p. 20). Geographic proximity is also an important factor in spurring cross-border activity by resource-based Canadian TNCs. However, a recent change in strategies from exporting to FDI is due partly to the need for TNCs "to retain knowledge about their firm-specific advantage within the network of the (TNC) rather than risk its dissipation on open markets," where this knowledge may be marketing-, production-, or other-related (Rugman, 1986, 21). Other factors that encourage the creation of Canadian subsidiaries include nontariff barriers, such as federal, state, and municipal government regulations and controls.

U.S. FDI via its Canadian subsidiaries is often due to "government-imposed market imperfections such as tariffs, and the nature of the Canadian country-specific advantage," namely the availability of raw materials and resources (Rugman, 1986, p. 19). NAFTA has lessened the impact of tariffs, encouraging exports rather than continued U.S. FDI (U.S. Dept. of Commerce 1993).

The transfer of goods between cross-border subsidiaries leads to the problem of how the transferred good should be priced. Should profits be taxed in Canada or the U.S.? Should the transfer price be based on a comparable market price or be cost-based? If Canadian and U.S. regulations are incongruent, which regulations take precedence when the TNC is setting its transfer prices?

CANADIAN VERSUS U.S. TRANSFER PRICING REGULATIONS

Canadian TNCs are concerned with three tax issues: transfer pricing, the distinction between capital gains and ordinary income, and tax incentives (O'Connor, 1992). The transfer pricing of tangible goods and intangible property is regulated by Revenue Canada in Sec. 69 of the Canadian Income Tax Act. These regulations assume that the arm's-length standard usually results in the price being set at fair market value.[1] This is in accordance with recently revised Organization for Economic Cooperation and Development guidelines (Organization for Economic Cooperation and Development [OECD], 1995).

Canada differs from the United States in that Revenue Canada does not provide detailed transfer pricing guidance or regulations for TNCs other than the six-page Information Circular 87-2. When Canadian TNCs deal with non-Canadian subsidiaries on other than an arm's-length basis, Circular 87-2 specifies the allowable transfer pricing methods. The allowable transfer pricing methods in preferred order are comparable uncontrolled price (CUP), cost- plus, resale, and other methods, including profit split and the transactional net margin method (TNMM) but excluding the comparable profits method (CPM).[2] The TNMM is included in the revised OECD guidelines as a profit-based method of last resort. If a CUP is not available, a functional analysis should be undertaken to identify the appropriate pricing mechanism. "Cost" must meet the Canadian definition, not that of the country in which the subsidiary is located (Revenue Canada, 1987).

When compared with other industrialized countries, the U.S. "subjects the foreign operations of its transnationals to the severest tax constraints and the heaviest tax burden," as well as with formidable administrative complexities (Haas, 1991, pp. 3–6). Sec. 482 of the Internal Revenue Code is a major component of this overall tax policy. A single paragraph long, it requires almost two hundred pages of interpretation.

Sec. 482 regulates the use of transfer pricing methods to prevent income shifting and to guarantee payment of U.S. income taxes. It authorizes the IRS to reallocate improperly shifted income so that the true income taxable by the United States is properly reflected in the TNC's records. This income should be that which would be earned by the TNC if transactions between the parent and its subsidiary(ies) were based on the arm's-length standard. Allowable methods for tangible goods include CUP, resale price, cost plus, CPM, and profit split methods. The use of CPM concerns the global community because CPM may violate the internationally accepted arm's-length standard.[3]

EMPIRICAL STUDIES ON CANADIAN AND U.S. TRANSFER PRICING

An overview of selected empirical studies on Canadian and U.S. transfer pricing practices show a relative lack of consistency in findings across environmental and organizational factors.[4] The inconsistencies may be attributed to differences in how factors are defined; who completed the survey (e.g., tax managers, international vice presidents); the lack of Canadian studies in both frequency and recency; and the definition of the sample population. Existing studies also neglect possible financial influences, such as rates of return and statutory vs. effective tax rates, on transfer pricing choices.[4] Given that the transfer pricing method directly affects reported subsidiary income, it is possible that the effect of transfer pricing methods on financial measures may override organizational and environmental influences.

Canadian TNC Studies

Arpan (1971) surveyed 27 Canadian TNCs as part of a multi-country study. Of the eight TNCs identifying transfer pricing methods, seven used market-based transfer prices. Income tax considerations were paramount in determining the transfer price. Transfer pricing objectives included the acceptability of the method to customs and tax authorities, and control over subsidiaries to meet profit goals.

Milburn (1977) surveyed 20 Canadian and 13 U.S. public accounting partners about international transfer pricing issues. The choice of a transfer pricing method was an economic decision by the TNC, combining TNC organizational preferences with home and host countries' national interests. The arm's- length equivalent (market) price was the preferred method.

Fowler (1978) used published data for Canadian subsidiaries of U.S. TNCs in 13 manufacturing and mining industries to examine profit maximization vis-à-vis low transfer prices. Due to the interaction of tariff and tax rates, "the impetus toward a high or low transfer price depends on the level of ownership in the subsidiary, the dividend payout ratios, the effective marginal tax rates ... and the tariff on the goods transferred," support-

ing the contingency theory that "different levels of transfer price are optimal for different industries" (p. 24).

Tang (1981) identified the major influences on Canadian TNC choice of a transfer pricing method as overall company profit, customs rates and regulations, and competition. Primary transfer pricing objectives were maximizing TNC profit and subsidiary performance evaluation.

Canadian Oil TNC Practices

Transfer pricing practices of Canadian oil companies (many of which are subsidiaries of U.S. parent TNCs) have been studied in depth, with varying conclusions. Rugman's (1985) findings that TNCs in the petroleum industry used transfer prices that approximated or were less than market (arm's-length) prices contradicted those of Bertrand (1981), who found that TNCs charged inflated transfer prices for petroleum transfers and therefore overcharged Canadian consumers. Bernard and Weiner (1992) found that over an 11 year period, transfer prices in the petroleum industry varied both above and below an arm's-length price but overall were less than arm's-length, creating a favorable situation for Canada and Canadian consumers. Bernard and Genest-Laplante (1996) provided additional support to Rugman's findings by analyzing the six largest Canadian petroleum affiliates. As in the Bernard and Weiner (1992) study, transfer prices were equal to or less than the arm's-length price. These findings support income-shifting by U.S. TNCs into Canada to take advantage of the lower Canadian tax rates.

U.S. TNC Studies

For U.S. TNCs, Tang (1979) found that overall company profit was the primary factor affecting method choice; determination of subsidiary performance was the most important objective. No significant relationship between TNC size and transfer pricing method was found.

Wu and Sharp (1979) found that transfer pricing criteria differed by industry for U.S. TNCs. Primary criteria included compliance with tax and tariff regulations and profit maximization.

The most influential factors affecting transfer pricing decisions identified by Burns (1980) were market conditions and competition in the host country, reasonable profit for the subsidiary, and U.S. income tax regulations.

Yunker (1982) found that larger firms tended toward market-based methods. Important environmental factors included overall market conditions and demand for the product, government regulations and restrictions, and economic conditions.

Borkowski (1992) found no relationship between transfer pricing method and industry, but found that smaller TNCs preferred cost-based methods. Transfer pricing decisions were affected by tax and customs rates and regulations, and the relative ease of using the transfer pricing method.

In a replication of his earlier study, Tang (1993) confirmed his prior findings of no TNC size/method relationship. The environmental factors affecting method choice were overall TNC profit, tax rate and regulation differences, and restrictions on repatriation of profits.

VARIABLE SELECTION AND HYPOTHESES

Do environmental and organizational factors influence transfer pricing choices? Prior research found a relationship among some of these factors, such as management criteria and transfer pricing method choice, and contradictory findings about other factors, such as size and industry. Many of the factors evaluated in this study are taken from research by Borkowski (1992) and Tang (1993). Other variables and financial measures that may be related to transfer pricing are discussed in the following paragraphs, and are included in Table 1.

Table 1. Variables Under Consideration

Variables
Organizational Variables:
Size (sales) by TNC
Size (sales) by U. S. and Canadian subsidiaries
Assets by U. S. and Canadian subsidiaries
Industry
Performance Evaluation Criteria by U. S. and Canadian Managers
—Non-income measures
—Segment profit
—Other profit measures
—Innovation measures
Transfer Pricing Method Criteria —Internal
—Practical concerns (ease/cost)
—Usefulness in decision making
—Usefulness in performance evaluation
Environmental Variables:
Effects of NAFTA
Economic Stability—TNC and Subsidiary
TNC/Subsidiary Government Relations
Prior IRS/Revenue Canada Audit Experience
Transfer Pricing Method Criteria —External
—Tax and trade regulations
—Other transnational concerns
TNC Practices to Counter Effects of Transfer Pricing Method
Financial Variables:
Return on Equity
Return on Assets—TNC
Return on Assets—U. S. and Canadian Subsidiaries
Return on Sales—TNC
Return on Sales—U. S. and Canadian Subsidiaries
Statutory Tax Rate
Effective Tax Rate
Income by TNC
Income by U. S. and Canadian Subsidiaries

Wilson (1993) found that operating decisions were unaffected by transfer pricing concerns, and that "tax transfer prices do not affect performance evaluations ... either because they use separate transfer prices for managerial and tax purposes or because they use pretax evaluation measures that do not depend on transfer prices." (p. 197) This finding is contrary to the results of Borkowski (1993) and Klassen, Land, and Wolfson (1993). To determine the relationship between transfer pricing methods and performance evaluation, 14 evaluation criteria were included as organizational variables, and are presented in the survey instrument (Appendix A, Question 12). These criteria were factor-analyzed to yield four dimensions of performance evaluation: non-income measures, segment profit, other profit measures, and innovation measures.

Many criteria have been identified in prior studies as potential organizational (internal) and environmental (external) influences on transfer pricing method choice (Appendix A, Question 13). A factor analysis of these 31 criteria loaded the items on five factors: three organizational (practical, decision making, performance evaluation), and two environmental (tax/trade regulations and other transnational concerns). The effects of NAFTA are evaluated separately as an environmental factor in Canada-U.S. transfers.

If these factors affect TNC transfer pricing choice, differences should be evident when Canadian and U.S. TNC practices are compared. The transfer pricing methods used, and the effects of organizational and environmental factors are tested in the following hypotheses:

H_1: There are no differences in transfer pricing methods used by Canadian and U.S. TNCs.

H_{2a}: There are no differences in organizational variables between Canadian and U.S. TNCs.

H_{2b}: Organizational variables and transfer pricing choice are not related.

H_{3a}: There are no differences in environmental variables between Canadian and U.S. TNCs.

H_{3b}: Environmental variables and transfer pricing choice are not related.

Financial factors and their relationship to transfer pricing decisions have not been studied in the same depth as organizational and environmental factors. Instead, there has only been indirect evidence of such effects.

In the 1980s, "the rate of return on assets and for net income (less deficits) as a percentage of total receipts have been far lower for foreign-controlled U.S. firms than for domestically controlled firms" (Hufbauer and van Rooij, 1992, p. 115). For all U.S. firms, the figure was 3.4%, compared with Canada at .9% and Japan at .1%. These financial measures indicating poor profit performance were attributed by Congress to transfer pricing manipulations and abuse, although other factors may have contributed to this disparity (Hufbauer and van Rooij, 1992).

Grubert, Goodspeed, and Swenson (1993) studied factors contributing to poor profit performance, including transfer pricing manipulations, higher debt costs, foreign direct investment in the U.S. via acquisitions of both profitable and unprofitable U.S. corporations, start-up costs, and exchange rate fluctuations. Half of the foreign-domestic differential "is definitely attributable to the special characteristics of foreign-controlled

companies and not to transfer pricing," leaving them with "a significant difference that we are unable to explain by forces other than transfer pricing." (Grubert, Goodspeed, and Swenson, 1993, pp. 269–271)

When performances are compared for a ten-year period, Rugman and McIlveen (1986) found that Canadian TNCs "earned a lower return and at greater risk ... than their American counterparts" (p. 302). Explanatory factors include narrower Canadian versus more diversified U.S. markets, and thinner, smaller Canadian versus more capital-balanced, larger U.S. TNCs. In terms of tax advantages, "in many cases combined effective Canadian federal and provincial corporate tax rates are lower than the combined effective U.S. federal, state, and dividend withholding tax rates payable in respect to U.S. subsidiary profits." (Boidman, 1993, p. 5)

Given the disparity in profits between U.S. and non-U.S. based TNCs, Grubert and Mutti (1991) looked at the factors influencing income shifting and rate of return differentials. The statutory tax rate "appear[ed to be] a better determinant of income shifting than effective tax rates," so if TNCs are "shift[ing] taxable income to low-tax locations, the reported after-tax profit rate in a country should be negatively correlated with its tax rate." (Grubert & Mutti, 1991, pp. 286–293) This was demonstrated by comparing after-tax profit as a percentage of net sales and the after-tax rate of return on equity.

Differences in Canadian and U.S. TNC profit performance are measured in this study by the rate of return on assets (ROA), rate of return on equity (ROE), net income as a percentage of receipts (ROS), and both statutory and effective tax rates. These measures are either obtained from Disclosure archival files or calculated using data from corporate annual financial reports. Sales, assets, and income data are taken from corporate annual reports and/or Disclosure files. Analyses are performed at both TNC and subsidiary levels, and correlations between the financial variables and tax rates are analyzed for evidence of possible income shifting.

The effects of these financial factors are tested in the following hypotheses:

H_{4a}: There are no differences in financial variables between Canadian and U.S. TNCs.

H_{4b}: Financial variables and transfer pricing choice are not related.

METHODOLOGY, ANALYSIS AND INTERPRETATION

Canadian TNCs are drawn from the population of Canadian-based corporations, and are included in the sample if they are listed on either the *Canadian Business Corporate 500* or the *Directory of Corporate Affiliates*, have at least one subsidiary in the U.S., and are in an industry identified in prior studies as likely to use transfer pricing. Similarly, U.S. TNCs are drawn from the population of U.S.-based corporations, and are listed on the *Fortune 500*, *Business Week 1000*, or the *Directory of Corporate Affiliates*; have at least one Canadian subsidiary; and are in relevant industries. Initial and follow-up mailings were sent to the Canadian sample of 126 TNCs with U.S. subsidiaries and to the U.S. sample of 261 TNCs with Canadian subsidiaries. One hundred sixty-seven TNCs responded from the combined sample of 387, for an overall response rate of 43%. Of the 71 Canadian surveys returned (56% response rate), 28 transferred tangible goods, 2 transferred only intangible

property, and 41 did not use transfer pricing in conjunction with their U.S. subsidiaries. Of the 106 U.S. surveys returned (41% response rate), 62 transferred tangible goods, 1 transferred only intangible property, 38 did not use transfer pricing with their Canadian subsidiaries, and 5 cited company policy in not answering surveys. There were no significant differences in size or industry between early and late respondents, or between nonrespondents and respondents, by country.

Table 2 compares transfer pricing methods of Canadian and U.S. TNCs reported in this study with prior studies. One major difference between this and prior studies is that the current samples of Canadian and U.S. TNCs are limited to those with Canadian-U.S. cross-border subsidiaries in order to isolate specific Canada-U.S. interactions, while prior samples included all Canadian and U.S. TNCs, regardless of subsidiary location.

Nonparametric statistics are used in the initial analysis because of the categorical and/or ordinal nature of many of the variables. The Wilcoxon two-sample test is used to

Table 2. Current and Prior Studies on Canadian and U.S. Transfer Pricing Methods

Canadian Transnational Corporations (in percentages)

	Arpan (1971) N = 8	*Tang (1981) N = 78*	*(Current) N = 28**
Full Cost		25.9	21.4
Variable Cost		5.5	
Other Cost		1.9	3.6
Total Cost	12.5	33.3	25.0
Market		37.1	64.3
Negotiated		25.9	3.6
Other		3.7	7.1
Total Noncost	87.5	66.7	75.0
Total	100.0	100.0	100.0

United States Transnational Corporations (in percentages)

	Tang (1979) N = 85	*Burns (1980) N = 62*	*Yunker (1982) N = 52*	*Borkowski (1992) N = 79*	*Tang (1993) N = 90*	*(Current) N = 62***
Full Cost	42.3		39.0	51.9	37.6	25.8
Variable Cost	2.4				2.5	6.5
Other Cost	1.2				1.3	4.8
Total Cost	45.9	37.0	39.0	51.9	41.4	37.1
Market	31.8	43.0	34.0	32.9	45.9	38.7
Negotiated	16.4	15.0	17.0	15.2	12.7	11.3
Other	5.9	5.0	10.0			12.9
Total Noncost	54.1	63.0	61.0	48.1	58.6	62.9
Total	100.0	100.0	100.0	100.0	100.0	100.0

Notes: * Limited to Canadian TNCs with U. S. subsidiaries.
** Limited to U. S. TNCs with Canadian subsidiaries.
Other studies used all Canadian and U. S. TNCs, regardless of subsidiary location.

compare the responses of Canadian and U.S. TNCs and market/nonmarket-based transfer pricing methods.

Differences in Transfer Pricing Methods

The hypothesis of no differences between Canadian and U.S. TNC transfer pricing practices can be rejected. Canadian TNCs prefer market methods, while U.S. TNCs prefer other methods, as shown in Table 2 and Table 3, Panel A. If permitted to change methods with no regulatory restrictions, TNC reactions by home country are significantly different (Table 3, Panel B). Ten (42%) market U.S. TNCs would change to nonmarket methods while only three (8%) nonmarket TNCs would switch to market methods. In Canada, five (28%) market TNCs would change to nonmarket methods, compared to only one (10%) nonmarket TNC switching to a market method.

Organizational Variables

The hypothesis that organizational variables do not differ between Canadian and U.S. TNCs cannot be rejected. As shown in Table 4, Panel A, TNCs differ by country only by size as measured in overall sales, sales to U.S. subsidiaries, and assets invested in U.S. subsidiaries. All size, asset, and income measures are calculated in U.S. dollars. The significant size differences between U.S. and Canadian TNCs and their subsidiaries are

Table 3. Current and Preferred Transfer Pricing Methods

Panel A: Transfer Pricing Methods Currently Used by Respondents

	US TNCs		*Canadian TNCs*		*Total*	
Market Methods	24	39%	18	64%	42	47%
Sales in U. S.$ Millions	10,322		1,504		6,543	
Other Methods	38	61%	10	36%	48	53%
Sales in U. S.$ Millions	5,025		1,528		4,296	
Total	62	100%	28	100%	90	100%
Sales in U. S.$ Millions	7,075		1,512		5,345	

Notes: Wilcoxon 2 sample test probability .0478*
* Significant at alpha = .10.

Panel B: Preferred Transfer Pricing Method Given U. S. Section 482 "Best Method" Rule

CUP	17	27%	14	50%	31	34%
Cost Plus	16	26%	7	25%	23	26%
Resale Price	10	16%	4	14%	14	16%
Profit Split	8	13%	1	4%	9	10%
CPM	11	18%	2	7%	13	14%
Totals	62	100%	28	100%	90	100%

Notes: Wilcoxon 2 sample test probability .0721.*
* Significant at alpha = .10.

representative of the TNC population in each country: in both the sample and the overall TNC population, U.S. TNCs are five times as large as Canadian TNCs in sales revenues.

In their performance evaluation of domestic and foreign subsidiary managers, Canadian and U.S. TNCs are very similar. Segment profit, the only significantly different criterion, is more important to U.S. TNCs than to Canadian TNCs in evaluating managerial performance. In the criteria applied when choosing transfer pricing methods, both countries rate the practical aspects (ease of understanding and cost of administration) as most important in the choice process.

When organizational factors are compared by market/nonmarket transfer pricing methods in Table 4, Panel B, data regarding size are not significant. However, the data are in the same direction as those of most prior research findings, with larger TNCs choosing market, and smaller choosing nonmarket methods.

Of interest is the significant difference between market and nonmarket TNCs regarding preferred transfer pricing methods. Of market TNCs, 36% would prefer to change to nonmarket methods, while only 8% of nonmarket TNCs would change to market methods. This is important because the U.S. IRS audits nonmarket TNCs more frequently than those using market methods (as discussed in the next section).

Market TNCs stress other profit measures (ROA, ROI, ROE) significantly more when evaluating both domestic and foreign subsidiary managers than nonmarket TNCs do. However, the latter emphasize innovation measures in managerial evaluations more strongly than their market counterparts, but only for managers stationed in the U.S..

Table 4. Differences in Organizational Factors

Panel A: Differences by Country

	Wilcoxon two sample probability	*US TNC N = 62 Means*	*Canada TNC N = 28 Means*
Size (Sales) by TNC	.0001**	7,075	1,512
Size (Sales) to U. S. subsidiaries	.0001**	4,140	605
Size (Sales) to Canadian subsidiaries	.6770	697	816
Assets by U. S. subsidiaries	.0001**	3,899	986
Assets by Canadian subsidiaries	.1719	613	2,912
Industry	.3049	N/A	N/A
Performance Evaluation Criteria#			
—Non-income Measures for U. S. Managers	.3711	4.18	4.00
—Non-income Measures for Canadian Managers	.1105	4.20	3.93
—Segment Profit for U. S. Managers	.0513*	3.66	3.26
—Segment Profit for Canadian Managers	.1985	3.63	3.33
—Other Profit Measures for U. S. Managers	.3246	3.73	4.08
—Other Profit Measures for Canadian Managers	.5655	3.85	4.08
—Innovation Measures for U. S. Managers	.1315	3.69	3.27
—Innovation Measures for Canadian Managers	.9095	3.31	3.38
Transfer Pricing Method Criteria#			
—Practical	.2976	4.38	4.57
—Decision-Making	.4164	3.22	3.32
—Performance Evaluation	.1513	3.18	3.39

(continued)

Table 4. (Continued)

Panel B: Differences by Transfer Pricing Method

	Wilcoxon two sample probability	*Market N = 42 Means*	*Non-market N = 48 Means*
Size (Sales) by TNC	.6319	6.542	4.296
Size (Sales) to U. S. Subsidiaries	.8386	3.418	3.041
Size (Sales) to Canadian Subsidiaries	.7129	786	688
Assets by U. S. Subsidiaries	.7904	4.278	2.168
Assets by Canadian Subsidiaries	.2372	2.198	527
Industry	.7378	N/A	N/A
Performance Evaluation Criteria#			
—Non-income Measures for U. S. Managers	.1816	4.00	3.23
—Non-income Measures for Canadian managers	.2113	4.00	4.21
—Segment Profit for U. S. Managers	.4566	3.46	3.59
—Segment Profit for Canadian Managers	.8916	3.51	3.55
—Other Profit Measures for U. S. Managers	.0038**	4.26	3.48
—Other Profit Measures for Canadian Managers	.0051**	4.26	3.64
—Innovation Measures for U. S. Managers	.0840*	3.34	3.74
—Innovation Measures for Canadian Managers	.9718	3.37	3.30
Transfer Pricing Method Criteria#			
—Practical	.9999	4.44	4.45
—Decision Making	.3064	3.37	3.15
—Performance Evaluation	.6401	3.32	3.19
Preferred Transfer Pricing Method	.0001**	N/A	N/A

Panel C: Differences by Transfer Pricing Method By Country

	Wilcoxon Two Sample Probabilities	
	Market $N_{U.S.} = 24$ $N_{CAN} = 18$	*Non-Market* $N_{U.S.} = 38$ $N_{CAN} = 10$
Size (Sales) by TNC	.0010**	.0065**
Size (Sales) to U. S. Subsidiaries	.0001**	.0062**
Size (Sales) to Canadian Subsidiaries	.7000	.2037
Assets by U. S. subsidiaries	.0001**	.0268*
Assets by Canadian subsidiaries	.9515	.0678*
Industry	.8269	.0833*
Performance Evaluation Criteria#		
—Non-income Measures for U. S. Managers	.6078	.7466
—Non-income Measures for Canadian Managers	.2952	.3970
—Segment Profit for U. S. Managers	.4605	.0592*
—Segment Profit for Canadian Managers	.9019	.0840*
—Other Profit Measures for U. S. Managers	.6858	.9250
—Other Profit Measures for Canadian Managers	.9347	.7860
—Innovation Measures for U. S. Managers	.2600	.6265
—Innovation Measures for Canadian Managers	.5343	.4358
Transfer Pricing Method Criteria#		
—Practical	.7784	.2015
—Decision Making	. 2565	.7423
—Performance Evaluation	.2004	.5340

Notes: * Significant at alpha = .10 ** Significant at alpha = .01.
Size and asset means are reported in millions of U.S. dollars.
Reported on a five-point scale, where 1 = Very unimportant and 5 = Very important.

The final analysis of organizational factors by transfer pricing method by country is presented in Table 4, Panel C. The significant size variables are the same as found in the analysis by country. Additionally, nonmarket TNCs differ by size of their Canadian subsidiaries. A country-specific finding regarding industry is that all Canadian metal/mining TNCs use market transfer prices, while all U.S. metal/mining TNCs use cost-based methods.

The size findings in Panels A, B, and C of Table 4 illustrate the still unresolved relationship between TNC size and transfer pricing practices. Research suggests that larger TNCs use noncost based methods (Tang, 1992), that full-cost TNCs are smaller (Borkowski, 1992), or that larger TNCs tend to use market-based prices (Al-Eryani, 1987; Yunker, 1982). These findings are supported by the transfer pricing choices of U.S. TNCs (market-based sales of $10,322 million versus nonmarket sales of $5,025 million), but not by Canadian TNCs, where market-based TNCs averaged $1,504 million in sales, less than the nonmarket-based average of $1,528 million.

Environmental Variables

The hypothesis that environmental variables do not differ between Canadian and U.S. TNCs cannot be rejected. As shown in Table 5, Panels A, B, and C, only prior audit status is significant across both country and method. Of the 62 U.S. TNCs, 31 (50%) had unfavorable adjustments to income as a result of IRS audits based on Sec. 482, and 24 (39%) as a result of Revenue Canada audits based on Sec. 69 (see Panel A). Eighteen of these had bilateral adjustments. Canadian TNCs fared much better, with only one receiving adjustments from both the IRS and Revenue Canada, and another three experiencing a Revenue Canada modification, for a total of 14%. When compared by method in Panel B, the IRS adjusted 10 of 42 market TNCs (24%) and 22 of 48 non-market TNCs (46%). Revenue Canada revised 15 of 42 market TNCs (36%) and 13 of 48 non-market TNCs (27%). When compared by method by country, as shown in Panel C, U.S. TNCs were more likely to have unfavorable IRS Sec. 482 and/or Revenue Canada audits, regardless of transfer pricing method. It seems that U.S. TNCs are (or have been) more likely than Canadian TNCs to apply more liberal interpretations of transfer pricing regulations than intended by Revenue Canada and the U.S. IRS.

An a priori assumption was that the tax and trade regulation criterion resulting from the factor analysis in Table 5 would be significant. When the data did not support this assumption, the items comprising this factor were analyzed individually for an explanation. When the criterion is broken down by item, the effects of U.S. Sec. 482 are significantly more important than Canadian Sec. 69, both across and within countries. This is not surprising: although Sec. 69 is similar in its recommendations to Sec. 482, it is more loosely interpreted by Revenue Canada and less subject to penalties. Given their audit status, however, it seems that Canadian TNCs are better or more conscientious at choosing a method in accordance with Sec. 482, and/or that U.S. TNCs choose methods less is accordance with Sec. 482, challenging the IRS and undergoing an audit. Canadian TNCs also prefer market methods, which are more likely to pass IRS scrutiny than the non-market methods currently preferred by U.S. TNCs. These results suggest that U.S., not Canadian, tax regulations are influencing the choice of transfer pricing methods, regardless of TNC home country.[5]

Table 5. Differences in Environmental Factors

Panel A: Differences by Country

	Wilcoxon two sample probability	*U. S. TNC N = 62 Means*	*Canada TNC N = 28 Means*
Effects of NAFTA on			
—TNC Trade with Subsidiary	.1062	3.61	3.32
—TNC Overall	.7480	3.63	3.57
—TNC Industry	.4656	3.66	3.54
—Canadian Economy	.8797	3.53	3.50
—U. S. Economy	.0190*	3.74	4.14
—Mexican Economy	.7963	4.16	4.14
Economic Stability of			
—TNC	.9269	4.34	4.32
—Subsidiary	.1675	3.85	4.18
TNC/Subsidiary Government Relations	.2602	3.71	3.54
Prior IRS Audit	.0001**	50%	4%
Prior Revenue Canada Audit	.0332*	39%	14%
Transfer Pricing Method Criteria			
—Tax and Trade Regulations	.3249	3.53	3.36
—Other Transnational Concerns	.8344	3.32	3.21
TNC Practices to Counter Effects of Transfer Pricing Method			
—Two Sets of Books	.1637	40%	25%
—Approximate Market Conditions	.6094	37%	43%
—Disregard Transfer Pricing Effects	.6175	23%	18%
—Budget for Transfer Prices	.4598	21%	14%
—No Practices Used	.8258	19%	21%

Panel B: Differences by Transfer Pricing Method

	Wilcoxon two sample probability	*Market N = 42 Means*	*Non-market N = 48 Means*
Effects of NAFTA on			
—TNC Trade with Subsidiary	.2538	3.41	3.63
—TNC Overall	.6919	3.57	3.65
—TNC Industry	.5097	3.55	3.69
—Canadian Economy	.0918*	3.71	3.35
—U. S. Economy	.3232	3.95	3.79
—Mexican Economy	.2379	4.26	4.06
Economic Stability of			
—TNC	.4173	4.40	4.27
—Subsidiary	.1492	4.12	3.81
TNC/Subsidiary Government Relations	.9754	3.67	3.65
Prior IRS Audit	.0254*	24%	46%
Prior Revenue Canada Audit	.4150	36%	27%
Transfer Pricing Method Criteria			
—Tax and Trade Regulations	.3752	3.53	3.43
—Other Transnational Concerns	.3135	3.39	3.19

(continued)

Table 5. (Continued)

TNC Practices to Counter Effects of Transfer Pricing Method			
—Two sets of books	.0307*	24%	46%
—Approximate market conditions	.1151	48%	31%
—Disregard transfer pricing effects	.3394	17%	25%
—Budget for transfer prices	.0353*	10%	27%
—No practices used	.4039	24%	17%

Panel C: Differences by Transfer Pricing Method by Country

	Wilcoxon Two Sample Probabilities	
	Market $N_{U.S.} = 24$ $N_{CAN} = 18$	*Non-Market* $N_{U.S.} = 38$ $N_{CAN} = 10$
Effects of NAFTA on		
—TNC Trade with Subsidiary	.8883	.0270*
—TNC Overall	.9886	.7558
—TNC Industry	.2321	.6260
—Canadian Economy	.5838	.8511
—U. S. Economy	.1291	.1053
—Mexican Economy	.8041	.7608
Economic Stability of		
—TNC	.7615	.9228
—Subsidiary	.7657	.1851
TNC/Subsidiary Government Relations	.2945	.6101
Prior IRS Audit	.0022**	.0170*
Prior Revenue Canada Audit	.0119*	.5477
Transfer Pricing Method Criteria		
—Tax and trade Regulations	.6139	.2488
—Other Transnational Concerns	.6435	.8888
TNC Practices to Counter Effects of Transfer Pricing Method		
—Two Sets of Books	.3614	.6913
—Approximate Market Conditions	.3862	.4022
—Disregard Transfer Pricing Effects	.0139*	.0441*
—Budget for Transfer Prices	.0760*	.3145
—No Practices Used	.6175	.5422

Notes: * Significant at alpha = .10 ** Significant at alpha = .01.
All factors reported on a five-point scale, where
1 = Very unimportant and 5 = Very important.

There are no differences between countries in the practices adopted to address the effects of their given transfer pricing methods in Table 5, Panel A. However, when compared by method in Panel B, nonmarket TNCs are more likely to keep two sets of books (tax/finance/local vs. management control) and to include the effects of transfer pricing in their budgets so managers are not evaluated on parent company usage of transfer prices to achieve certain goals, such as tax minimization. When compared by method by country in Panel C, all market Canadian TNCs addressed transfer pricing effects when evaluating subsidiary performance, and none accounted for transfer pricing adjustments in their budgets, compared to 71% and 83% of their U.S. market counterparts. Of the TNCs using

Table 6. Differences in Financial Factors

Panel A: Differences by Country

	Wilcoxon two sample probability	*U. S. TNC N = 62 Means*	*Canada TNC N = 28 Means*
Return on Equity	.0098**	9.33	-4.02
Return on Assets			
—TNC	.0519*	4.22	1.03
—U. S. Subsidiaries	.0103*	9.74	-.01
—Canadian Subsidiaries	.0006**	14.56	-.14
Return on Sales			
—TNC	.0627*	3.94	1.34
—U. S. Subsidiaries	.0178*	7.31	-14.76
—Canadian Subsidiaries	.1940	10.57	5.12
Statutory Tax Rate	.0001**	35.00%	42.85%
Effective Tax Rate	.0453*	30.22%	22.17%
Income#			
—TNC	.0007**	94.19	-9.80
—U. S. Subsidiaries	.0002**	96.24	-18.04
—Canadian Subsidiaries	.0495*	53.61	54.09

Panel B: Differences by Transfer Pricing Method

	Wilcoxon two sample Probability	*Market N = 42 Means*	*Non-market N = 48 Means*
Return on Equity	.3452	2.71	7.84
Return on Assets			
—TNC	.4298	3.09	3.45
—U. S. Subsidiaries	.2698	4.37	9.40
—Canadian Subsidiaries	.2182	5.86	13.89
Return on Sales			
—TNC	.8086	3.33	3.03
—U. S. Subsidiaries	.3346	-5.10	6.73
—Canadian Subsidiaries	.7865	9.97	8.13
Statutory Tax Rate	.0425*	38.22%	36.76%
Effective Tax Rate	.3833	28.42%	27.10%
Income#			
—TNC	.9301	15.52	107.23
—U. S. Subsidiaries	.9126	-27.43	142.04
—Canadian Subsidiaries	.7912	54.90	52.75

(continued)

Table 6. (Continued)

Panel C: Differences by Transfer Pricing Method by Country

	Market-based			*Nonmarket-based*		
	Wilcoxon two sample probability	*U. S. N = 24 Means*	*Canada N = 18 Means*	*Wilcoxon two sample probability*	*U. S. N = 38 Means*	*Canada N = 10 Means*
Return on Equity	.0752*	9.01	-5.69	.1015	9.54	- .27
Return on Assets						
—TNC	.3215	4.06	1.79	.1014	4.32	- .69
—U. S. Subsidiaries	.1922	7.37	- .62	.0201*	11.23	1.05
—Canadian Subsidiaries	.2161	8.89	1.06	.0016**	18.26	-1.96
Return on Sales						
—TNC	.1509	4.38	1.94	.1686	3.67	.00
—U. S. Subsidiaries	.2509	5.72	-23.12	.0294*	8.30	- .42
—Canadian Subsidiaries	.8235	11.17	8.08	.0233*	10.18	.68
Statutory Tax Rate	.0001**	35.00	42.51	.0001**	35.00	43.46
Effective Tax Rate	.0722*	32.74	22.66	.2852	28.62	21.29
Income*						
—TNC	.0360*	-4.40	42.09	.0043**	156.45	-126.56
—U. S. Subsidiaries	.0134*	-50.82	11.55	.0057**	188.16	-68.78
—Canadian Subsidiaries	.7407	18.23	116.02	.0083**	78.01	-38.81

Notes: * Significant at alpha = .10 ** Significant at alpha = .01
Income means are reported in millions of dollars (U. S.).

nonmarket methods, 50% of Canadian TNCs disregarded transfer pricing effects when evaluating performance compared to 18% of the U.S. nonmarket TNCs. These practices by nonmarket TNCs, particularly keeping two sets of books, may contribute to the high audit experience of U.S. TNCs.

Regarding NAFTA, both U.S. and Canadian respondents feel that Mexico received the most benefits compared to their home countries. When comparing both method and country, 90% of non-market Canadian TNCs were neutral, and 10% positive, about the effect of NAFTA on trade with their U.S. subsidiaries. In contrast, non-market U.S. TNCs were more positive (55%) about NAFTA's effect on trade with their Canadian subsidiaries.

Financial Variables

The hypothesis that financial factors do not differ between Canadian and U.S. TNCs can be rejected. As shown in Table 6, Panel A, all financial ratios (returns on equity, assets, and sales) are lower, and significantly lower in six of seven cases for Canadian TNCs. These findings may lend support to Hufbauer and van Rooij (1992) and Grubert et al.

(1993), who attribute some part of the poor profit performance by U.S. subsidiaries of Canadian TNCs to possible transfer pricing manipulations. The lower returns and size variables in Table 4 may also support Rugman and McIlveen's (1986) explanation that Canadian TNCs are less diversified and smaller than their U.S. competitors, therefore exhibiting poorer relative performance.

Differences in effective tax rates indicate that Canadian TNCs could minimize taxes by charging higher prices to their U.S. subsidiaries, therefore keeping income in lower-taxed Canada, as suggested by Boidman (1993). This is supported by the significantly higher ROS of 5.12 for domestic Canadian subsidiaries when compared with their U.S. subsidiaries' ROS of -14.76. U.S. TNCs might also be encouraged to shift income into Canada given the latter's lower effective rate. This may be supported by the lower ROA (9.74) and ROS (7.31) for domestic U.S. subsidiaries when compared with their Canadian subsidiaries (14.56 and 10.57, respectively).

However, there is disagreement as to which tax rate is the better determinant of income shifting. The statutory rate is preferred by Grubert and Mutti (1991) because it is prior to any non-transfer-pricing-related adjustments to the effective rate. Therefore, income should be shifted by Canadian TNCs to their U.S. subsidiaries, and by Canadian subsidiaries to their U.S. parent TNCS, due to the significant differences in their statutory tax rates. This is not supported by the rates of return reported by the TNCs in this study. If income shifts are occurring, it is due to the effective, and not the statutory, tax rate differentials.

As shown in Table 6, Panel B, an analysis by transfer pricing method shows no relationship with financial factors, so the final hypothesis cannot be rejected. Five of the seven rates of return were higher for nonmarket TNCs, but none was significantly different from those of market TNCs.

When compared by both method and country in Table 6, Panel C, the patterns found in the comparison by country are found in market TNCs, by country. All U.S.-TNC associated rates of return are higher than Canadian returns, and market Canadian subsidiaries, whether foreign or domestic, have higher return rates than their U.S. counterparts. Differences between Canadian and U.S. market TNCs, however, are not significantly different. For non-market TNCs, as before, all U.S. returns are higher than, and many are significantly higher than, Canadian returns.

IMPLICATIONS AND CONCLUSIONS

Canadian TNCs exhibit opposite preferences for market and nonmarket transfer pricing methods (64% and 36%, respectively) when compared with U.S. TNCs (39% and 61%, respectively). However, organizational and environmental factors do not seem to influence either country's choice. While prior audit experience is consistently significant, the logical interpretation is that the method chosen by the TNC induces the audit, and not the reverse. The significant size difference simply reflects the size of the Canadian and U.S. TNC population and is not significant when transfer pricing methods are compared.

When compared by country by method, TNC practices used to counter transfer pricing effects differ significantly. Again, it is the transfer pricing method driving these practices, and not vice versa. TNCs using two sets of books were more likely to be using non-market methods and were more likely to be audited by the IRS. This area needs further investiga-

tion: Are U.S. TNCs more willing than Canadian TNCs to challenge IRS Sec. 482 and risk audits, given the former's larger size and available resources?

Financial factors differ by TNC country but not by transfer pricing method. An analysis indicates that income shifting may occur among TNCs in the U.S. and Canada. Nonmarket TNCs, while smaller in size (measured by sales and assets), report larger absolute income and generally better rates of return than market TNCs. This is partially explained by the larger U.S. TNCs, which experience higher rates of return and prefer nonmarket methods, while the smaller Canadian TNCs, with lower rates of return, prefer market methods. However, do U.S. TNCs enjoy higher rates of return due to income shifting spurred by differentials in effective tax rates between the U.S. and Canada? Are U.S. TNCs using transfer prices to favorably manipulate income and minimize tax payments? Are the higher return on sales and income enjoyed by domestic subsidiaries of Canadian TNCs due to income shifting from their U.S. subsidiaries? The differences found in this study in financial measures, coupled with the audit history of U.S. TNCs, provide some evidence of income shifting based on effective tax rates. Determining the true extent of such shifting is an area for future research and beyond the scope of this study.

Given the lack of significant organizational and environmental factors, transfer pricing methods may be chosen by Canadian TNCs to meet tax regulations while facilitating income shifting. Given their audit history, however, U.S. TNCs may be using transfer pricing as an income-shifting mechanism. If further research supports this behavior, existing regulations should be updated to discourage such behavior, perhaps through more severe penalties and fewer, but equally acceptable, transfer pricing methods.

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NOTES

1. A transaction "meets the arm's-length standard if the results of the transaction are consistent with the results that would have been realized if uncontrolled taxpayers had engaged in the same transaction under the same circumstances" [IRS 1.482-3(b)].
2. These methods assume the arm's-length standard, so that the final transfer price between related (controlled) subsidiaries would have been the same if the transfers had been between unrelated (uncontrolled) entities. Generally, comparable uncontrolled price (CUP) is the market price for the transferred good. Cost-plus assumes the gross profit mark-up which would have been added to the production cost if the subsidiaries were unrelated. Resale price is the price at which the transferred good would have been resold to an unrelated entity, less some gross profit percentage. The profit split divides profits between subsidiaries using some economically valid basis that approximates the division of profits that would have occurred had the subsidiaries been unrelated. The comparable profits method (CPM) uses profit measures (such as the return on assets or operating income to sales) to determine a return that would equal that realized by a comparable independent enterprise. There is some debate over the arm's length nature of CPM, in that it depends on profit comparisons rather than price and/or transaction comparisons and functional analysis. For a detailed review of transfer pricing methods and definitions, see Coopers and Lybrand (1993), U.S. Sec. 482 (1994) and OECD guidelines (1995).
3. This standard "has been adopted by nearly every country as the guiding principle for determining transfer prices between members of a group" (UN Secretariat 1995, p. 3), as well as by the United Nations, the OECD, and the International Chamber of Commerce (ICC, 1994).

4. A detailed review of empirical, theoretical, and model building research is provided by Grabski (1985), Leitch and Barrett (1992), and Tang (1993).
5. This may not be the case in the future because Revenue Canada is currently updating its transfer pricing regulations. Changes will require additional documentation requirements and impose significant penalties for noncompliance with transfer pricing regulations effective with the 1997 tax year.

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Note: Appendix 1. "Survey: Relationship Between Transfer Pricing Methods and Performance Evaluation," including 14 evaluation criteria follows pp. 412–415.

Appendix 1. Survey: Relationship Between Transfer Pricing Methods and Performance Evaluation

Does your company transfer TANGIBLE GOODS and/or INTANGIBLE PROPERTY between the parent company and subsidiaries (profit centers, business units, divisions, etc.) in the UNITED STATES?

____YES Start with question 1 if INTANGIBLE PROPERTY is transferred.
Please complete the remaining questions and return the survey in the enclosed envelope.

____YES Start with question 3 if only TANGIBLE GOODS are transferred.
Please complete the remaining questions and return the survey in the enclosed envelope.

____NO Do not complete the remaining questions. Please return this survey in the enclosed envelope.
Thank you for your time

1. **Which of the following intangibles are transferred between your parent company and its United States subsidiary(ies)? Please check ALL that apply.**

____ Patent, invention, formula, process, design, or pattern .
____ Copyright, literary musical, or artistic composition
____ Trademark, trade name or brand name.
____ Franchise, license or contract.
____ Method, program, system, procedure, campaign, survey, study, forecast, estimate, customer list or technical data.
____ Other (Please describe)

2. **Which one of the following is the MOST PREVALENT method used to determine the international transfer price for intangible property in your company? Please check only ONE method.**

____ Exact comparable method
____ Inexact comparable method
____ Basic arm's length rate of return method (BALRM)
____ Profit split basic arm's length rate of return method(BALRM Plus)
____ Profit split method
____ Contract manufacturer approach
____ Functional analysis
____ Commensurate standard (hybrid of profit split/functional analysis)
____ Other (please describe)

3. **What is the MOST PREVALENT method used to determine the price for transferred tangible goods? Please check only one method for each country.**

____Market price (either full or adjusted)
____ Negotiated between parent company and subsidiary manager
____ Full cost (standard, actual, plus profit, other variations)
____ Variable cost (standard, actual, plus, other variations)
____ Marginal or incremental cost
____ Mathematical/programming models
____ Dual pricing (different prices for selling and buying divisions)
____ Other (Please explain)

4. **In your opinion, what will be the effect of the North American Free Trade Agreement (NAFTA) on**

	Very negative		Neutral		Very positive
Your company's trade with the U.S.	1	2	3	4	5
Your company, in general	1	2	3	4	5
Your industry, in general	1	2	3	4	5
The Canadian economy	1	2	3	4	5
The Mexican economy	1	2	3	4	5
The United States economy	1	2	3	4	5

	Very negative		Neutral		Very positive
5. How would you characterize the economic stability of					
Your parent company	1	2	3	4	5
Your United States subsidiary(ies)	1	2	3	4	5
6. How would you characterize your parent company's relations with the U.S. government	1	2	3	4	5

7. Revenue Canada has proposed an Advance Pricing Agreement (APA) program similar to the APA program currently used by the U.S. Internal Revenue Service. APAs accept in advance the transfer pricing method used by the company for a number of years, thus avoiding problems with non-Canadian tax authorities. What is your company's status regarding APAs?

____ Plan to apply for an APA with Revenue Canada during the next year.
____ Plan to apply for an APA with Revenue Canada during the next two years.
____ Have no plans to apply for an APA with Revenue Canada.
____ Have concluded an APA with the U.S. IRS.
____ Are currently in negotiations with the U.S. IRS for an APA.
____ Have no plans to apply for an APA with the U.S. IRS.

8. If your company has filed (or plans to file) for an APA, please skip to question 9. If not, why is your company not interested in reaching an APA with Revenue Canada or the IRS? Please rate the following reasons from 1 to 9, where 1 is the most important.

____ Confidentiality problems with data/materials submitted to IRS and/or Revenue Canada
____ Volume of information/documentation required by the process
____ Too many product lines to get agreement on
____ Difficult to get agreement from multiple governments, since company has subsidiaries in other countries besides the United States
____ Cost of obtaining an APA exceeds perceived benefits
____ Proposed term of APA is too short
____ Possibility of arbitrary revocation/cancellation by Revenue Canada and/or IRS
____ Could serve as red flag to audit prior years
____ Not necessary since company has had no prior transfer pricing problems

9. Which of the following practices best describes your company's multinational practices? Please check all that apply.

____ Using two sets of books, one for tax, finance and local purposes, the other for management and control purposes

____ Approximating in the non-Canadian subsidiary, as closely as possible, those conditions that would be faced by an independent market entity

____ Disregarding transfer pricing aberration effects when evaluating the performance of a non-Canadian subsidiary

____ Taking account of any transfer pricing adjustments in the budget, so subsidiary managers are not evaluated on parent company usage of transfer prices to achieve certain goals, such as tax minimization

____ None of the above

10. France and Japan have asked the U.S. to reconsider its temporary transfer pricing rules (TD 8470) and proposed profit split regulations (INTL-401-88). They cite problems with the profit split method, increasing worldwide tax inequities and the difficulty of a non-U.S. company gathering as much information as its U.S. counterparts if the IRS makes a transfer pricing allocation. If these regulations (which include the best method rule) are finalized, which method would your company use for pricing tangible goods and intangible property? Please check one method for each type of transfer.

TANGIBLE GOODS	INTANGIBLE PROPERTY	
_____	_____	Comparable uncontrolled price (CUP)
_____	_____	Comparable uncontrolled transaction (CUT)
_____	_____	Comparable profit method (CPM) e.g., operating profit/sales, gross profit/operating expenses, return on capital employed
_____	_____	Cost plus
_____	_____	Resale price
_____	_____	Profit split
_____	_____	Formulary apportionment
_____	_____	Cost sharing agreements (CSAs)
_____	_____	Other (please describe)________________________________

11. Has your company had an adjustment to its income proposed by an IRS international examiner since 1990?

___ NO Please go to question 11b.
___ YES Please indicate the range of the proposed adjustment.
_____ Less than $100,000 ______Between $500,000 and $1,000,000
_____ Between $100,000 and $499,999 ______Greater than $1,000,000

11b. Has your company had an adjustment to its income proposed by a Revenue Canada examiner since 1990?

___ NO Please go to question 12.
___ YES Please indicate the range of the proposed adjustment.
_____ Less than $100,000 ______Between $500,000 and $1,000,000
_____ Between $100,000 and $499,999 ______Greater than $1,000,000

12. How important are the following items in evaluating the performance of subsidiary managers in your company?

	CANADIAN MANAGERS					UNITED STATES MANAGERS				
	Very unimportant		Neutral		Very important	Very unimportant		Neutral		Very important
Company-wide performance standards	1	2	3	4	5	1	2	3	4	5
Net income of the subsidiary	1	2	3	4	5	1	2	3	4	5
Residual income	1	2	3	4	5	1	2	3	4	5
Return on investment (ROI)	1	2	3	4	5	1	2	3	4	5
Return on sales (ROS)	1	2	3	4	5	1	2	3	4	5
Return on assets (ROA)	1	2	3	4	5	1	2	3	4	5
Market share	1	2	3	4	5	1	2	3	4	5
Cost reduction	1	2	3	4	5	1	2	3	4	5
Profit margin	1	2	3	4	5	1	2	3	4	5
Sales growth	1	2	3	4	5	1	2	3	4	5
Adherence to budgets	1	2	3	4	5	1	2	3	4	5
Meeting goals of subsidiary	1	2	3	4	5	1	2	3	4	5
Innovation in products	1	2	3	4	5	1	2	3	4	5
Innovation in technology	1	2	3	4	5	1	2	3	4	5

13. **In your opinion, how important are the following in affecting the choice of the MOST PREVALENT transfer pricing method? Please circle the appropriate response for each factor.**

	Very unimportant		Neutral		Very important
Ease of understanding	1	2	3	4	5
Cost of administration	1	2	3	4	5
Evaluation of subsidiary profit	1	2	3	4	5
Evaluation of subsidiary management	1	2	3	4	5
Goal congruence	1	2	3	4	5
Profit maximizing decisions/parent	1	2	3	4	5
Profit maximizing decisions/subsidiary	1	2	3	4	5
Managerial motivation	1	2	3	4	5
Managerial autonomy	1	2	3	4	5
Efficiency in subsidiary	1	2	3	4	5
Optimal production decisions	1	2	3	4	5
Optimal purchasing decisions	1	2	3	4	5
Optimal product pricing decisions	1	2	3	4	5
Fairness in management evaluation	1	2	3	4	5
Better upper management control	1	2	3	4	5
Minimization of managerial disputes	1	2	3	4	5
U.S. tax regulations (Sec. 482)	1	2	3	4	5
U.S. tax penalties (Sec. 6662)	1	2	3	4	5
U.S. tariff regulations	1	2	3	4	5
Other U.S. tax regulations	1	2	3	4	5
Non-U.S. tax regulations	1	2	3	4	5
Non-U.S. tariff regulations	1	2	3	4	5
Competition in subsidiary country	1	2	3	4	5
The recent passage of NAFTA	1	2	3	4	5
The GATT Uruguay round	1	2	3	4	5
Economic conditions/subsidiary country	1	2	3	4	5
Exchange rates between countries	1	2	3	4	5
Relations with subsidiary government	1	2	3	4	5
Minimization of tax payments	1	2	3	4	5
Minimization of tariff/duty payments	1	2	3	4	5
Management of cash flows	1	2	3	4	5

THANK YOU FOR YOUR PARTICIPATION!

If you would like a copy of the results of this survey, please include your business card, or your name and mailing address below:

NAME: ______________________________

MAILING ADDRESS: ______________________________

____

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Examination of U.S.–Based Japanese Subsidiaries: Evidence of the Transfer of the Japanese Strategic Cost Management

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Key Words: Cost management, Transfer of cost accounting across cultures, Japanese cost management techniques, Advanced manufacturing environment, Japanese operations in the U.S., Comparison of Japanese and American cost management practices

Abstract: *As a result of global competition, many Japanese companies are now operating in the United States. This article presents a survey of the management accounting methods employed by U.S.–based Japanese manufacturers and documents evidence about the current direction of accounting practices that are being transferred from Japan to the U.S. work environment. The results of the study show that most of the U.S.–based Japanese firms are similar to Japanese domestic firms in their use of management accounting methods of target costing and value engineering, variable costing, and strategic adaptation of traditional methods such as standard costing and budgeting. It is also evident that U.S.–based Japanese affiliates may be influenced by U.S. practices, as shown by significant usage of activity-based costing and internal rate of return for evaluating capital investment projects. This article is an important part of a continuing effort to study the development of management accounting among foreign-owned subsidiaries in the U.S., helping them to meet the challenges of global competition. Additionally, expanding this line of research on foreign subsidiaries that apply world class management accounting practices in other countries may assist U.S. multinational firms in their overseas subsidiaries' operations. Two limitations of this study and, thus, suggestions for future research are identified. First, the data on U.S.–based Japanese affiliates were collected for one point in time. Second, this study did not match each U.S.–based Japanese affiliate with its parent in Japan.*

INTRODUCTION

As a result of advances in transportation and communication technologies, today's modern manufacturing environment can be characterized by the global scale of markets and competition. In response to these global market demands, there has been an increase in product diversification and factory automation and a reduction in the production

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workforce. There also has been continued criticism that management accounting methods, particularly those practices employed in the U.S., have not kept pace with the manufacturing changes in the areas of cost and performance measurement (Kaplan, 1984; Schwarzbach, 1985; Shillinglaw, 1989; Ballew & Schlesinger, 1989; Kaplan, 1990; Drucker, 1990; Ferrara, 1990; Martin, Schleb, Snyder & Sparling, 1992.)

In response to these criticisms, many suggestions have been made, but those with the broadest view appear to offer the best solutions. Shank (1989) calls for a strategic cost management system that explicitly directs the managerial use of cost information at one or more of the following stages of the strategic management cycle: formulation of strategies, communication of these strategies throughout the organization, implementing the strategies, and monitoring the implementation to measure success. Ostrenga (1990) asserts that total cost management requires a business philosophy of managing all company resources and the activities that consume those resources. Finally, Nanni, Dixon and Vollmann (1992) propose an integrated performance measurement system to acquire cost and other performance knowledge and employ it operationally at every step in the strategic management cycle. These approaches underscore the importance of management accounting systems in the advanced manufacturing environment.

Emerging as global leaders in implementing modern manufacturing methods, Japanese firms have successfully combined the salient points of the preceding methods into a strategic, total cost management system. Monden (1989) describes this total cost management system used by major Japanese automakers, in particular the Toyota group. Hiromoto (1991) synthesizes Japanese methods and develops a strategic management accounting system that will reinforce a top-to-bottom commitment to continuous process and product innovation.

To help U.S. firms compete globally, Scarbrough, Nanni and Sakurai (1991) study Japanese methods of management accounting in automated manufacturers for the purpose of establishing benchmarks. Other studies, however, raise questions about the feasibility of transferring Japanese accounting methods to the U.S. These studies also question whether those methods are beneficial to all groups in society (see, among others, Oliver & Davies, 1990; Williams, Mitsui & Haslam, 1991; Hammond & Preston, 1992). As a result, the transfer of Japanese accounting methods to the U.S. will neither occur instantaneously nor will there be a total convergence of Japanese and U.S. accounting methods. However, none of these studies analyzed issues concerning *transferability of management accounting practices* in the U.S. To examine the rate and the ability of transferring Japanese strategic cost management to the U.S., it is essential to examine the actual practices in Japan and in the U.S. over time.

Many Japanese companies are now operating in the U.S. as a result of global expansion and competition for market share (Womack, Jones, & Roos, 1991). Many of these U.S.–based Japanese companies employ some Japanese manufacturing methods and accounting systems. If U.S.-owned domestic companies desire to stay on the cutting edge of these apparently successful transplanted Japanese techniques, a likely group of firms to target for study would be Japanese companies operating in the U.S. Therefore, this article presents a survey of the management accounting methods employed by U.S.–based Japanese manufacturers. Based on these observations, this project provides evidence on the current direction of accounting practices that are being transferred from Japan to the U.S. work environment.

It should be noted that the results of this study neither imply the superiority of Japanese management accounting practices nor suggest what methods should be transferred from

Japan to the U.S. Rather, it is an important part of a continuing effort to study the development of management accounting practices among foreign-owned subsidiaries in the U.S., helping them to meet the challenges of global competition and to reconcile cultural differences.

In addition to reporting findings of management accounting methods of U.S.–based Japanese firms, their practices are compared to those of U.S. domestic firms and Japanese domestic firms documented in the extant accounting literature. Details on these differences will be incorporated into the discussion of the present study's results.

This article is organized as follows. First, Japanese management accounting methods that are relevant to the survey are discussed. Next, the survey and its results are discussed. The article then concludes with policy implications of the results, limitations, and the direction for future research.

OVERVIEW OF JAPANESE MANAGEMENT ACCOUNTING METHODS

The extant literature indicates that there are three closely related characteristics of the management accounting systems for Japanese–based companies. The focal point of their systems is to provide needed support for companywide strategic planning and implementation. First, Japanese–based manufacturers adopt an integrated cost planning approach with their market-based strategic product development. They perform extensive cost planning to manage costs through cost reduction at the product design and development stage. Such an emphasis on cost planning is based on the fact that most cost decisions are made prior to production in the engineering design, prototype and vendor sourcing stages. Cost planning activities generally involve value engineering[1] and target costing analyses.[2] Target cost analysis is often used to gather information and to foster commitment from all departments involved. Value engineering examines the functions that the product is designed to perform and evaluates the performance and the cost of delivering all required product functions. Development of a new product or major revision of an existing product requires input from all functions including marketing, engineering design, production, and cost management.

The second characteristic of Japanese management accounting systems is a formal cost improvement system through decreases in the cost targets on a periodic basis. To promote innovation, cost tables are continuously updated to reflect new materials or new engineering methods. Thus, cost tables not only can be utilized to search opportunities for continuous improvement but they also help management accountants interface with personnel in other functional areas. Additionally, the improved cost targets are established for production as well as other functional areas. Production cost improvements normally focus on the costs of direct materials and direct labor. Since direct materials account for 60 percent to 70 percent of the product costs, efforts are focused on price negotiation with vendors and waste reduction (Shields, Chow, Kaga, & Nakagawa, 1991). For the other functional departments, cost improvements are usually in terms of budget reductions that focus on fixed cost elements.

The third characteristic of Japanese management accounting systems is the manner in which they are used to influence and motivate employees to achieve the corporation's strategic cost and profit objectives. Hiromoto (1988) asserts that management accounting systems must switch to the behavior-influencing focus from the traditional information-

for-decisions-making focus. For example, he notes that a highly automated manufacturer, Hitachi's videocassette recorder plant, still allocates overhead using direct labor hours because it wants to encourage direct labor cost improvement and to increase levels of automation. Hiromoto (1991) provides another company that wanted to both reduce the number of parts used and increase the use of standardized parts in its various products and product lines. Specifically, its management accountants devised a weighted allocation scheme for parts design and testing costs. Parts unique to a product carried a cost factor of 10, parts unique to a product line carried a cost factor of 5, and parts used in several product lines were assigned a cost factor of 1. This allocation scheme resulted in a 15 percent increase in the use of standardized parts over a period of 10 years when product variety also increased.

Additionally, management accounting systems should increase teamwork across department boundaries in product and process development. As mentioned earlier, the use of cost tables for target cost analyses supports multidisciplinary decision making. Nonfinancial performance indicators are evaluated for their eventual behavioral impact and degree of goal congruence with corporate strategies. They can be integrated into the management accounting systems to evaluate manufacturing performance and cost improvement. Examples include setup/changeover times, throughput/cycle times, inventory levels, and off-quality rates. Similar evaluations for goal congruence are required when using responsibility centers and intraunit transfer prices to motivate and influence employees.

In summary, the management accounting methods used by manufacturers in Japan are complex and closely integrated systems. Inside the firm, total cost management provides a measurement link between corporate strategies and products. External to the firm, management accounting systems also interface with the market and customer demands to identify the desirable product functions and costs. In response to these external demands, innovation and continuous improvement are the key characteristics of these cost systems.

As a result of the manufacturing success in Japan, many companies in other nations have started to emulate Japanese–based manufacturing methods and management accounting practices (O'Boyle, 1990; Cochrane, 1993). However, a stream of research has questioned the transferability of management accounting system design characteristics across nations. For example, Williams et al. (1991) observe that the approach that allows greater worker participation and continuous improvement in Japanese-based firms is institutionalized and made compulsory by the quality circle systems. In the Japanese culture, "workshop Kaizen (continuous improvement) requires *all* workers be committed in two aspects: first, they should intensify effort to meet the ever receding targets; second, they should be prepared to sacrifice free time, as necessary, to the company" (Williams et al. 1991, p. 163) Hammond and Preston (1992) also warn that Japanese culture and management accounting techniques should not be considered to be separable. Techniques that are independent of historical and cultural context and viewed as the means of delivering results are a danger of the "new managerialism."

This study recognizes the need not only to refine management accounting systems but also the influence of culture on accounting practices. To observe U.S.–based Japanese firms' management accounting system development in process, this study documents their progress as Japanese–based systems merge with the U.S. work environment.

U.S.–BASED JAPANESE MANUFACTURERS SURVEY

Previous studies have focused on the status of the management accounting systems in U.S. domestic and Japanese domestic firms. The main purpose of the survey reported in this article is to identify management accounting methods used by Japanese-affiliated manufacturers in the U.S. These findings are then compared to those from previous surveys of Japanese domestic firms and U.S. domestic firms to determine the extent of Japanese accounting methods that have been transferred to and utilized by U.S.–based Japanese firms. Specifically, the survey instrument was designed to compare the results of the present study to those of a U.S. domestic survey performed by Howell, Brown, Sovey, and Seed (1987) and to those of a Japanese domestic survey performed by Scarbrough et al. (1991).[3]

In these studies, Howell et al. (1987) target firms with automated manufacturing environments and include a check list of 13 types of advanced technologies potentially employed by survey firms. Scarbrough et al. (1991) exclude respondents that indicated having low automation levels. Due to this wide range of qualifiers for identifying automated manufacturers, participants in the present study were requested to indicate whether automation was used in their operations. Those indicating no automated system in use were excluded from the sample.

An initial survey questionnaire was prepared and pretested by both U.S. and Japanese cost accounting personnel employed by manufacturers in the Southeast region of the U.S. A 22-question survey instrument was finalized by incorporating their suggestions. The survey was designed to acquire the information about U.S.–based Japanese affiliates in the following areas: (1) business activities, (2) product costing, (3) cost planning and control, and (4) production control and performance evaluation (see the Appendix). Companies were identified by using the *1991-92 Directory: Japanese-Affiliated Companies in the USA and Canada* (JETRO, 1991) and the directory maintained by North Carolina Department of Economic and Community Development and the North Carolina Japan Center. The survey was sent to all manufacturers that had 10 percent or more Japanese-owned interests in Georgia, North Carolina, South Carolina, Tennessee, and Virginia. To generate interest and to boost the response rate, researchers promised the respondents that the survey results would be sent upon request.

Descriptive Analysis

A total of 66 responses were received, representing 28 percent of the sample. Most of the business units included in the present survey are either branch or plant operations of much larger Japanese corporations. Table 1 provides the summary information of the survey respondents. Companies that are totally owned by Japanese firms accounted for 73 percent of the respondents. The next largest group of respondents (20 percent) indicated they were part of joint ventures, with Japanese ownership ranging from 30 percent to 51 percent. A majority of the respondents (79 percent) indicated having less than 500 employees. The relatively medium to small operations of U.S.–based Japanese affiliates may actually reflect the Japanese domestic companies' complex strategies to maintain lean operations as a competitive edge.[4] However, the small size of operations in the U.S.

Table 1. Summary Information of Respondents

Areas of Comparison	*U. S.–based Japanese Affiliates Current Study (1993)*	*U. S. Domestic Firms Howell et al., (1987)*	*Japanese Domestic Firms Scarbrough et al., (1991)*
Location of firms	S.E. of U. S.	U. S.	Japan
Number of respondents	47[a]	350	224
Majority ownership of firms	Total Japanese ownership: 73% Joint ventures: 20%	U. S.	Japanese
Types of firms	Automated manufacturers	Automated manufacturers	Automated manufacturers
Typical size of firms	Less than 500 employees	Annual sales under $10M to over $5B	500 to 10,000 employees
Usable response rate	20%	NA	40%
Typical business unit	Branch or plant	Plant or division	NA
Majority of respondents' role[b]	Preparers of cost info. (72%) Users of cost info. (47%) Both preparer and user (19%)	Preparers of cost info. (75%) Users of cost info. (17%)	NA

Notes: a Nonautomated U. S.–based Japanese affiliates were excluded from the total of 66 responses received.
b Since this question permits multiple answers, the percentages sum to more than 100.

could hinder the ability of comparing their practices to those among larger Japanese domestic operations.

Most of the respondents saw themselves as preparers of cost information (72 percent) in positions as corporate financial officers, controllers, or controller assistants. This is comparable to the earlier surveys. Many (47 percent) classified themselves as users of cost information, with almost half of these respondents indicating they were senior operating executives. Approximately 19 percent considered themselves both users and preparers.[5] Such a "dual role" of information provider and user indicates the trend of moving to integrate production accounting systems with other functions such as manufacturing management and industrial engineering.

A wide range of manufacturers as represented by the final sample of respondents. Table 2 shows the distribution of respondents by their industry classifications. This table also summarizes the automated operations among the respondents in terms of process, assembly, or others. Three major industry groups that show higher responding rates are electronics, transportation (automobiles) and metals.

Comparisons on Product Costing Systems

The product costing systems used in most U.S. companies have been criticized for their heavy focus on financial reporting (McKinnon and Bruns, 1993). As shown in Table 3,

Table 2. Summary of Sample Firms

Industry Groups	*Electronics*	*Transportation*	*Consumer Durables*	*Chemical*	*Metals*	*Textiles*	*Others*	*Total*
Total Respondents	11 (23%)	8 (17%)	4 (9%)	3 (6%)	5 (11%)	3 (6%)	13 (28%)	47[a] (100%)
Break-down by the types of automated operations								
Process-oriented	0	1 (12%)	1 (25%)	2 (67%)	4 (80%)	2 (67%)	8 (61%)	18
Assembly-oriented	0	0	0	0	0	0	2 (15%)	2
Both	10 (91)	7 (88%)	3 (75%)	0	1 (20%)	1 (33%)	3 (23%)	24
Others	1 (9%)	0	0	1 (33%)	0	0	0	2

Note: a Non-automated U. S.-based Japanese affiliates were excluded from the total of sixty-six responses received.

comparisons will be made among U.S. domestic, Japanese domestic and U.S.–based Japanese firms to describe and contrast their costing systems.

1. Single vs. multiple costing systems. In the last decade, the use of additional cost systems such as activity-based costing has been suggested to monitor today's manufacturing environment and determine product costs. Most of the U.S.–based Japanese affiliates responding in the present survey (70 percent) indicated that they used a single cost system

Table 3. Comparisons of Costing Systems

Areas of Comparison	*U. S.–based Japanese Affiliates Current Study (1993)*	*U. S. Domestic Firms Howell et al., (1987)*	*Japanese Domestic Firms Scarbrough et al., (1991)*
Percentages of respondents using single costing systems	70%	NA	60%
Percentages of respondents using multiple costing systems	30%	NA	27%
Percentages of respondents planning to change to multiple costing systems	13%	NA	9%
Reasons for using single costing systems (ranked from most frequent cited reason downward)[a]	1. Could adequately perform all required functions (64%) 2. Provides required integration for financial reporting purposes (46%)	NA	1. Avoid confusion as to what system was most reliable (29%) 2. Cost beneficial (24%)
Level at which cost system was developed	At individual business unit level (62%)	NA[b]	NA
Percentages of respondents treating conversion costs as fixed	30%	NA	21%
Percentages of respondents using direct labor related bases for allocating overhead	66%	NA	18%–83%
Reasons for using direct labor related bases for allocating overhead	Need to control labor hours and costs (61%)	NA	Need to accelerate automation (70%) Need to control direct labor hours (54%)
Percentages of respondents using activity-based costing	21%	NA[c]	Not used

Notes: a Since this question has multiple answers, the percentage sum to more than 100.

b Green and Amenkhienan (1992) reported that 28% of U. S. domestic manufacturers have developed their systems at the individual plant level.

c Green and Amenkhienan (1992) reported 45% of U. S. manufacturers use some form of ABC system.

to handle all the various functions required of a cost system: operational control, inventory valuation, budgeting, product costing, and regulatory concerns (taxes). Of the total respondents, 13 percent indicated they were planning eventually to install multiple systems. The remaining respondents (30 percent) used multiple systems, with each cost system designed for a specific purpose.

Such results roughly correspond to those of the Japanese survey that indicated 60 percent single, 27 percent multiple, and 9 percent planning to change to multiple (Scarbrough et al., 1991). The Japanese automated manufacturers, both in the U.S. and in Japan, appear to be gradually changing to multiple systems, although single systems continue to dominate. Comparable data on U.S. manufacturers, however, were unavailable.

For U.S.–based Japanese manufacturers, the predominant reason (64 percent) for using a single system was that it could still adequately perform all the required functions. The second most frequently cited reason (46 percent) was that a single system provided the required integration for financial reporting. For Japanese domestic firms, single systems were chosen to avoid confusion as to which system was most reliable (29 percent) and were considered cost beneficial (24 percent) (Scarbrough et al., 1991).

2. *Level at which costing system was developed.* For U.S.–based Japanese affiliates, most costing systems (62 percent) had been developed by the individual business unit rather than being imposed from a higher corporate or division level. This is in contrast to U.S. manufacturers of which only 28 percent have developed their systems at the individual plant level (Green and Amenkhienan, 1992). The need for the Japanese parent companies to decentralize control of overseas operations could explain part of this difference. No previous Japanese domestic survey provides sufficient, however, information to determine the extent to which this would or would not be characteristic of their domestic plant and branch operations in Japan. Shields et al. (1991 p. 71) suggest that "Japanese firms often design and operate their management accounting systems contingent on their competitive strategy, market competition and organizational culture." Due to this philosophy, Japanese cost accountants may have an inclination to and be permitted to design, operate, and change their cost accounting systems, resulting in locally developed systems.

3. *Use of costing information.* For U.S.–based Japanese affiliates, the importance of the financial reporting aspects of the cost accounting system was highlighted with 72 percent of all respondents indicating external financial reporting as a purpose of their cost system. The other most frequently indicated purposes were production control (60 percent) and product pricing (57 percent).

Slightly less than a third of the respondents (30 percent) indicated that they combine direct labor costs with overhead, treating it as a fixed cost to be allocated. Scarbrough et al. (1991) reported that 21 percent of automated Japanese domestic manufacturers followed the same practice. In highly automated operations where direct labor makes up a small part of total product costs, this treatment of direct labor costs is justified.

Among U.S.–based Japanese affiliates, direct labor related bases were used by 66 percent of the respondents to allocate overhead costs. Similarly, Japanese domestic manufacturers rely heavily on overhead allocations based on direct labor with usage at an 83 percent level.

As mentioned earlier, the Japanese automated manufacturers have continued to use direct labor-related bases either to influence behavior or for simplicity. That was the case

in the present survey in which the most frequently cited reason (61 percent) for continued use of direct labor bases was the need to control labor hours and costs. The Japanese domestic survey reported (70 percent of respondents) the most frequently cited reason for continued use of these bases was to accelerate robotization that was either not comprehensive or only partially installed. The second most frequently cited reason (54 percent) was the need to control labor hours (Scarbrough et al., 1991). This seems to indicate that the direct labor-based overhead allocation approach was instrumental in continuously driving down the cost content of direct labor in the products.

The use of activity–based costing (ABC) was reported by 21 percent of the current survey respondents. The fact that the Japanese affiliates have used target costs and cost tables that already consider the costs of activities and the consumption of resources could offer one possible reason for lower usage among U.S.–based Japanese affiliates compared to U.S. domestic companies.[6] Thus, they already have a good understanding of the relationships between products and overhead. However, it is important to note that the Japanese affiliates are more like the U.S. manufacturers than the Japanese domestic manufacturers since ABC does not appear to be used in Japan (Scarbrough et al., 1991).

Cost Planning and Control

As described earlier, advanced manufacturers in Japan have developed strategic total cost management systems with an emphasis on cost planning and continuous cost reduction through elaborate planning processes. Such cost management approaches are used to prevent cost variances rather than using variance analysis to control costs. Thus, one of the focuses of the present survey of Japanese affiliates is to investigate how they apply such a strategic cost management approach to their operations in the U.S. The results shown in Table 4 are discussed next.

1. *Strategic cost management.* The present study indicates that most U.S.–based Japanese affiliates are using some combinations of the cost analysis and planning methods. Specifically, 64 percent of respondents are using target costing, 52 percent using value engineering, and 84 percent using cost reduction through standard cost analysis. As for Japanese domestic manufacturers, Scarbrough et al. (1991) found that target costing was used by 40 percent, value engineering by 46 percent, and cost reduction through standard costing by 38 percent.

In contrast, 35 percent of U.S. manufacturers reported the use of target costing methods (see Green and Amenkhienan, 1992). No specific figures on value engineering use in the U.S. were found, however, Howell et al. (1987) indicated that less than 25 percent of U.S. manufacturers saw value engineering as a needed change for future product costing methods. Similarly, most U.S. domestic manufacturers use material, product cost, labor, or job standards for primarily cost comparison purposes.

Of the three methods examined, the use of cost reduction through standard costing is the most significant difference between Japanese domestic manufacturers and U.S.–based Japanese affiliates. Standard costs in Japan are mainly used for inventory valuation, not for variance analysis and cost reduction or control (see Monden & Sakurai, 1989. Though Shields et al. (1991 p. 66) found that Japanese firms revised standards more frequently

Table 4. Summary Results of Cost Planning and Control

Areas of Comparison	*U. S.–based Japanese Affiliates Current Study (1993)*	*U. S. Domestic Firms Howell et al., (1987)*	*Japanese Domestic Firms Scarbrough et al., (1991)*
Percentages of Respondents Using Strategic Cost Management Approaches:[a]			
1. Target costing	64%	NA[b]	40%
2. Value engineering	52%	NA[c]	46%
3. Cost reduction via standard costing	84%	NA	38%
Usage of Variable Costing			
1. Percentages of respondents using variable costing	82%	17%	64%
2. Changed in use of variable costing after automation	50% reported no change 28% reported increase in usage	NA	72% reported no increase in use
3. Percentages of respondents using contribution margin analysis	74%	NA	NA
4. Changes in usage of contribution margin analysis	50% reported no change 18% reported increase in usage	NA	65% reported no increase 35% reported increase in usage
Budgeting			
1. Percentage of respondents using integrated systems of standard costing and budgeting	64%	NA	14%
2. Change in use of integrated budgeting systems after automation	36% reported increase	NA	34% reported increase 2% reported decrease in use

Notes: a Since this question has multiple answers, the percentages sum to more than 100.
b In contrast, 35% of U. S. manufacturers were reported to use the target costing method (Green and Amenkhienan, 1992).
c Howell et al. (1987) indicated that less than 25% of U. S. manufacturers saw value engineering as a needed change for future product costing methods.

than U.S. firms and that Japanese firms "focus on the performance for some future length of time" whereas U.S. firms "tend to emphasize the past" in setting standards. The 84 percent use of standard cost analysis for cost reduction in our current study suggests that U.S.–based Japanese affiliates are also more future based in setting standards as is true of Japanese domestic manufacturers compare to U.S. domestic manufacturers.

2. *Usage of variable costing.* In the present study, 82 percent of survey respondents use variable costing and 74 percent of them use contribution margin analysis. When they were asked to compare the extent of usage before and after automation, about half of the U.S.–based Japanese affiliates indicated no change in their use of either variable costing

or contribution margin analysis. Only 28 percent of them indicated an increase in the use of variable costing, and 18 percent reported more frequent use of contribution margin analysis after automation.

Scarbrough et al. (1991) found that 64 percent of Japanese domestic manufacturers use variable costing. Many of them had little increase in use after automation, although 35 percent of the respondents indicated that they have increased their use of contribution margin analysis after automation. The current study's results concur with those of the Japanese domestic survey that Japanese manufacturers maintain their strategic emphasis on variable cost analysis and control. As described earlier, such an emphasis on controlling variable costs is instrumental in encouraging continuous improvements in manufacturing processes. It may be due to the extent of competitiveness in the U.S. market that Japanese affiliates use variable cost analysis techniques more frequently than the manufacturers based in Japan. It is noted, however, that only 17 percent of U.S. domestic manufacturers used variable costing (Howell et al., 1987).

3. *Usage of budgets.* Another method of controlling costs is the use of budgets and budget systems. The use of budgets, especially in sales and support departments, is a common cost control method found in both the U.S. and Japan. After automation, the Japanese domestic manufacturers adopted a budget system that integrates standard cost information with departmental budgets since the use of standard costing as a management tool declines (Sakurai and Huang, 1989).

Among U.S.–based Japanese affiliates, the integrated budget systems were used by 64 percent of the respondents. Only 14 percent of manufacturers were reported using the integrated budget systems in the Japanese domestic study (see Scarbrough et al., 1991). As a result of automation, 36 percent of U.S.–based Japanese affiliates reported an increase in the use of budgets, a finding similar to the those in the Scarbrough et al. survey (34 percent).[7] These increases in the role of budgeting are responding to the need to control the costs of manufacturing support functions such as product design and development, information systems, supervision, and maintenance, among others in the automated factories.

Capital Budgeting

As mentioned earlier, the present study included automated manufacturers solely to compare its results concerning them with those from previous studies of Japanese–based and U.S. domestic advanced manufacturing firms. Furthermore, automation of the manufacturing process is an important part of a company's strategic deployment. Manufacturing automation generally requires heavy capital investment. U.S. domestic firms, especially those applying the net present valute (NPV) approach, have found difficulties in justifying investment in advanced manufacturing systems (Kaplan, 1986; Berliner and Brimson, 1988). As a result, it is critical to examine the criteria used for rationalizing capital investments and the respective evaluation methods employed by U.S.–based Japanese affiliates. The results are shown in Table 5.

1. *Ranking of criteria used for evaluating investments.* Among U.S.–based Japanese affiliates, quality and corporate strategy as the primary justifications for capital invest-

Table 5. Summary Results of Capital Investment

Areas of Comparison	*U. S.–based Japanese Affiliates Current Study (1993)*	*U. S. Domestic Firms Howell et al., (1987)*	*Japanese Domestic Firms Scarbrough et al., (1991)*
Ranking of evaluation measures for capital investments justification (from the most important measure downward)	Quality Corporate strategy Competition Customer service Economic evaluation Market share Intuition	Operational performance (including quality, technological capability, delivery) Competition Corporate strategy Intuition	Economic evaluation Quality Corporate strategy Competition Customer service Market share Intuition
Ranking of methods used for evaluating capital investments (from the most frequent method downward)	Internal rate of return Annual cost Payback Net present value Accounting rate of return	Payback Internal rate of return Net present value Accounting rate of return	Payback Accounting rate of return Combination Annual cost Internal rate of return Net present value

ments were rated the highest. On a Likert scale with 5 being Very Important and 1 indicating Not Important, the average ratings cited for quality and corporate strategy were 4.6 and 4.4, respectively. These ratings were followed by competition (4.3), customer service (4.0), and economic evaluation (4.0). Market share (3.4) and intuition (2.3) were rated as being much less important. Quality improvement and corporate strategy deployment are the most significant factors under consideration when the U.S.–based Japanese companies evaluate capital investment projects.[8]

The survey results of Japanese domestic firms showed that economic evaluation was rated as the most important investment criteria, followed closely by quality/strategy/competitiveness. This contrasts with the present survey findings and indicates that Japanese overseas operations are more concerned with the quality and strategic issues. The economic return may still be important, but it is not an overriding factor because of the strategic significance of foreign operations.

U.S. domestic firms appear to be aware of the global competition. Both operational performance (including quality, technological capability, delivery) and competition were listed highest for justifying automation investments by 40 percent of U.S. domestic firms. Manufacturing strategy was rated much lower than operational performance and competition. Compared to their foreign competitors, this seems to reflect that U.S. companies' capital investments are passively driven by the competitiveness of marketplace and are less integrated with their corporate strategic goals.

2. *Ranking of Capital Investment Evaluation Methods.* When evaluation methods for capital investment were rated in terms of their importance, survey respondents closely ranked internal rate of return (IRR) (3.8), annual cost (3.7), and payback period (3.5) followed by present value methods (3.0) and the accounting rate of return (2.4).[9] The results indicate that many U.S.–based Japanese affiliates prefer using IRR which is a discounted cash flow method.[10]

It is interesting to note that some U.S.–based Japanese affiliates are deviating from the Japanese domestic companies' accounting practices. Among Japanese domestic manufacturers, Scarbrough et al. (1991) reported that non-discounted cash flow approaches (payback, accounting rate of return and combined methods) are ranked higher than any other investment justification criteria. Howell et al. (1987) showed that discounted as well as non-discounted cash flow approaches are widely used with payback, IRR and NPV being ranked the highest by U.S. domestic manufacturers. Japanese affiliates differ from both Japanese domestic companies and U.S. domestic firms in that they do not rely as heavily on payback. The top ranking of IRR by U.S.–based Japanese affiliates, however, is more similar to the heavy reliance on discounted cash flow among U.S. domestic firms.

Production Management and Performance Evaluation

More than 80 percent of the present study's respondents indicated that they are using the new production management method of total quality control. Fewer respondents currently use just-in-time inventory (34 percent), materials requirement planning, and manufacturing resources planning (56 percent). Performance evaluation associated with advanced production management methods reported in Table 6 are examined as follows.

A majority of U.S.–based Japanese affiliates (87 percent) reported that they use both financial and nonfinancial performance indicators. Respondents listed 19 different measurements. The most frequently cited include quality (62 percent), productivity (51 percent), profitability (38 percent), sales volume (38 percent) and customer service (36 percent).

In a previous Japanese domestic study, the participating manufacturers rated profitability as the top performance measurement followed by quality, productivity, growth rate, and sales volume (Scarbrough et al., 1991). It appears that factors other than profit are

Table 6. Summary Results of Production Management and Performance Evaluation

Areas of Comparison	*U. S.–based Japanese Affiliates Current Study (1993)*	*U. S. Domestic Firms Howell et al., (1987)*	*Japanese Domestic Firms Scarbrough et al., (1991)*
Production management methods[a]	Total quality control (82%) Just-in-time inventory (34%) MRP and MRP II (56%)	NA	NA
Performance evaluation measures[a]	Quality (62%) Productivity (51%) Profitability (38%) Sales volume (38%) Customer service (36%)	Financial measures used: Sales (80%) Sales growth (56%) NI/Sales (51%) Gross margin (49%) Optg.income/sales (48%) Cash flows (48%) Non-financial measures Used: Quality (52%) Market share (49%)	Profitability Quality Productivity Growth rate Sales volume

Note: a Since this question has multiple answers, the percentages sum to more than 100.

viewed strategically important for measuring the performance of Japanese overseas affiliates. Profitability is still an important part of the performance picture, but it needs to be weighed in conjunction with other concerns.

In their study of U.S. domestic manufacturers, Howell et al. (1987) requested participants to rate financial and nonfinancial performance indicators separately. Among the top financial measures that were "always used" by the respondents are sales (80 percent), sales growth (56 percent), net income to sales ratio (51 percent), gross margin (49 percent), operating income to sales ratio (48 percent) and cash flows (48 percent). Among the frequently used nonfinancial indicators where quality (52 percent) and market share (49 percent). Although no direct comparison can be made based on these observations, U.S. domestic firms appear to emphasize financial indicators more than nonfinancial indicators of performance. As shown by the U.S.–based Japanese affiliates, manufacturing measures should not be subordinated to financial measures of short-term profits. Rather, nonfinancial indicators will be used to foster sound operating decisions and thereby support financial health.

IMPLICATIONS AND CONCLUSIONS

In response to this survey, comments were received from the U.S.–based Japanese manufacturers that the Japanese management accounting systems do not have all the answers in cost accounting and that there was lack of mutual understanding of the characteristics in the Japanese and U.S. systems. Chandler and Williams (1993) reported that Japanese business and manufacturing practices also reveal significant weakness when they encounter economic contraction. These episodes show that it is important to perform the comparative studies of accounting systems across different cultures over a relatively long period of time. Though the "optimal" system may be a moving target, this study provides important information about the evolution toward the optimum by focusing on the management accounting methods used among the Japanese operations in the U.S. By continuing similar studies over time, we may begin to observe that certain management accounting techniques are relied on more consistently by more successful companies. These particular techniques and their emphasis become reasonable strategies for improvement of existing management accounting systems. Our study only adds one data point. Certainly many more are needed. Because Japanese management accounting systems have been known for being supportive of companywide strategic planning and implementation, it is valuable to examine how their systems function and/or change to sustain such a goal. Lessons learned from this examination can be useful in revitalizing the management accounting systems used by the U.S. multinational firms as well as helping them to compete overseas.

The results of this study suggest that U.S.–based Japanese affiliates are influenced by U.S. practices as shown by significant use of activity–based costing and internal rate of return for evaluating capital investment projects. This may be relevant for other nonU.S. companies operating in the United States, that are not currently employing ABC and/or IRR. More important, this study shows that most of the U.S.–based Japanese firms are similar to Japanese domestic firms in their use of management accounting methods of target costing, value engineering, variable costing, and strategic adaptation of traditional methods such as standard costing and budgeting. Additionally, profit, especially in the short term, is not the only

motive behind the Japanese establishment of manufacturing capability in the U.S. A manufacturing foothold in the U.S. is part of a broader Japanese strategy to improve long-term competitiveness. This strategy will produce technological gains that result from the cross-fertilization of two cultures in many areas, including management accounting. This suggests that U.S. domestic manufacturers may want to examine the possible benefits of greater utilization of target costing, value engineering, and variable costing and to improve usage of standard costing and budgeting. Furthermore, as U.S. companies examine their overseas operations, they may want to maintain a flexibility that encourages an absorption of technological gains resulting from the cross-fertilization among cultures.

Limitations

It should be noted that this study does not imply the superiority of Japanese management accounting systems to those of the U.S. Rather, this study is an effort to document an evolutionary process of management accounting systems, hoping to identify an optimal system over time. Data collected for this study, however, involved Japanese companies operating in the U.S. at one point in time. Similar data were not collected on their parent companies. Instead comparisons have been made to studies conducted earlier on Japanese domestic manufacturers in general. This significantly weakens the conclusions that can be drawn at this stage. Future research in this area could be improved by surveying the U.S.–based Japanese affiliates and their parent companies simultaneously. It is desirable to repeat the same type of study at regular intervals to help identify the management accounting techniques that have contributed to the success of the most profitable firms.

Policy Implication

As Japanese manufacturing and strategic cost management methods expand, one needs to consider the implication of such changes on existing working practices in terms of the resulting shifts in power and status on organizational participants. The results of this study indicate that Japanese strategic cost management approach emphasizes extensive planning, coordinated teamwork in quality improvement and cost reduction, motivating and guiding employees to achieve strategic goals through its management accounting systems. Oliver and Davies (1990) point out that these unique features call into question many of the fundamental tenets of Western practices. As such, the transfer of Japanese manufacturing and strategic cost management methods to the U.S. is likely to create winners and losers.

Finally, expanding this line of research on foreign subsidiaries that apply advanced management accounting practices in other countries may assist U.S. multinational firms in their overseas subsidiaries' operations. Future studies could include the practices of other non-U.S. manufacturers operating in the U.S. This could benefit further U.S. domestic manufacturers in their search for techniques that appear to transfer well to the U.S. In addition, countries other than the U.S. could be used as a base to benefit the operations of U.S. companies operating in other countries. For example, if France is used as a base, studies could be conducted to observe what management accounting techniques are employed by non-French companies operating in France. To better assess the superiority of these techniques, longitudinal studies could also be conducted to study whether these

techniques continue in use and to study how well these companies are performing relative to other companies not employing these techniques.

APPENDIX

Survey Questionnaire:
U.S.–Based Japanese Affiliates' Management Accounting
Practices in Advanced Manufacturing Environment

A. *Information about your company*
The following information was obtained from the Japan External Trade Organization. *Please correct as necessary.*

1. Type of Operation:
2. Type of Business:
3. Products:
4. How large is your business unit (number of employees)?
   a. Under 500
   b. 501 to 1000
   c. 1001 to 10,000
   d. Over 10,000
5. Please respond to this question (A, B, and/or C) based on your job function as either a *cost information user, preparer, or other.*
   A. If you are an *information user,* what best describes your primary function:
   a. Senior operating executive
   b. Engineering executive / engineer
   c. Manufacturing executive
   d. Manufacturing support staff
   e. Project manager
   f. Contract administrator
   g. Other user of information (explain) ____________________
   B. If you are an *information preparer*, what best describes your primary function:
   h. Corporate financial chief
   i. Corporate controller or assistant
   j. Group controller or assistant
   k. Division controller or assistant
   l. Plant controller or assistant
   m. Financial analyst
   n. Data processing professional
   o. Other user of information (explain) ____________________
   C. Please indicate here if you are some other type of participant (neither user or preparer) and explain ____________________
6. In your unit's advanced manufacturing operations, please indicate where automated operations are used:

a. process operations **only**
b. assembly operations **only**
c. both process and assembly operations
d. other operations (list) ______________________________
e. not using automated operations

B. *Information on product costing and inventory valuation*

7. "Cost accounting' can perform several functions, i.e. cost control, budgetary control, inventory valuation, regulatory requirements, profit planning, cost analysis, etc. Does your business unit utilize a single cost accounting system, or multiple systems?
   a. single system for a variety of functions.
   b. multiple systems, each for specified functions.
   c. single now, but plan to implement multiple.
   d. other (explain)______________________________

8. If your business unit is using a single cost accounting system, please indicate all reasons that apply:
   a. Too expensive to change to multi-system.
   b. Current system, although not perfect, is adequate.
   c. No justification from cost-benefit perspective.
   d. If there are multiple cost systems, confusion may arise as to which is most reliable.
   e. The cost accounting system should be integrated with the financial accounting system.
   f. other (explain)______________________________

9. Please indicate the functions) of your cost accounting system(s):
   a. production control
   b. external financial reporting
   c. evaluation of new product cost
   d. product pricing
   e. other (please list)______________________________

10. How was your cost accounting system developed?
   a. developed internally by business unit.
   b. developed externally by division or corporate headquarters.
   c. other (explain)______________________________

11. Is direct labor a single cost pool or is it combined with overhead/conversion costs?
   a. single cost pool
   b. combined in factory overhead/conversion
   c. other (explain)______________________________

12. Please indicate any overhead allocation base used for produce costing purposes?
   a. direct labor (dollars or hours)
   b. machine hours
   c. both direct labor and machine hours
   d. activity-based drivers
   e. other (explain)______________________________

13. If direct labor is used as an overhead allocation base, *please indicate all reasons which apply:*
    a. Control of production workers is still important and labor hours per unit of product can't be ignored.
    b. Though direct labor decreases with automation, maintenance and supervision work increases. Those indirect workers cannot be ignored when trying to control labor costs, and their cost is driven by direct labor hours.
    c. Robotization is not comprehensive/only partially installed.
    d. There are still fluctuations in the volume of production.
    e. Because of multiple machines in a process, there is a question of which machine's hours should be used.
    f. Other (explain) ____________________

C. *Information on Cost Analysis, Planning/Control, and Performance Evaluation*

14. Please indicate the importance of the following criteria used as evaluation measures to justify investment decisions:

	Very Important	**Above Average Importance**	**Below Average Importance**	**Average Importance**	**Not Important**
Corporate Strategy	______	______	______	______	______
Competitiveness	______	______	______	______	______
Quality	______	______	______	______	______
Economic Evaluation	______	______	______	______	______
Customer Service	______	______	______	______	______
Intuition	______	______	______	______	______
Market Share	______	______	______	______	______
Other (list)	______	______	______	______	______

15. If investments are justified using economic methods, please indicate the importance of your business unit's use of the following methods:

	Very Important	**Above Average Importance**	**Below Average Importance**	**Average Importance**	**Not Important**
Internal rate of return	______	______	______	______	______
Annual Cost	______	______	______	______	______
Payback Method	______	______	______	______	______
Accounting Rate of return	______	______	______	______	______
Present Value	______	______	______	______	______
Other (list)	______	______	______	______	______

16. Please indicate all of the following management tools in use or planned for use by your business unit:

	Consistently used for all purposes	Used only for special purposes	Plan to use	Does not use
Cost analysis and planning tools				
a) Direct costing	______	______	______	______
b) Contribution margin analysis	______	______	______	______
c) Target costing	______	______	______	______
d) Statistical quality control (defective limits)	______	______	______	______
e) Total quality control ("do it right the first time")	______	______	______	______
f) Cost reduction via standard cost analysis	______	______	______	______
g) Value engineering	______	______	______	______
h) Economic order quantity	______	______	______	______
i) "Just-in-time" manufacturing	______	______	______	______
j) Materials requirement/ manufacturing resources planning (HRP/MRPIT)	______	______	______	______
Control and performance evaluation tools				
k) Standard costing	______	______	______	______
l) Budgeting	______	______	______	______
m) Integrated budget systems (combines std. costing/budgeting)	______	______	______	______

D. *Information on Control and Performance Evaluation*

17. What has been the effect of factory automation on each of the following cost accounting tools:

	Increase in use	No change in use	Decrease in use	Don't know (lack before/ after data)	Change in way tools are used
a) Standard costing	______	______	______	______	______
b) Budget use	______	______	______	______	______
c) Direct costing	______	______	______	______	______
d) Contribution margin analysis	______	______	______	______	______
e) Other (list)__________	______	______	______	______	______

18. Does your business unit evaluate performance by profit indicators or overall performance measures (productivity, market share, quality, sales volume, growth rate, customer service, etc.)?

    a. only profit indicators.
    b. Overall performance measures (including profit).

19. If OVERALL PERFORMANCE measures are used for evaluation, please list and rank the measures by level of importance:

	Very Important	Above Average Importance	Below Average Importance	Average Importance	Not Important
a.______________	______	______	______	______	______
b.______________	______	______	______	______	______
c.______________	______	______	______	______	______
d.______________	______	______	______	______	______
e.______________	______	______	______	______	______
f.______________	______	______	______	______	______

20. If profit measures are used for evaluation, please rank the following by level of importance:

	Very Important	Above Average Importance	Below Average Importance	Average Importance	Not Important
a. Profit (dollar terms)	______	______	______	______	______
b. Return on investment (%)	______	______	______	______	______
c. Return on sales	______	______	______	______	______
d. Other (list)	______	______	______	______	______

21. A) Is your business unit's cost accounting/production information system:
    a. computer-based, real-time
    b. computer-based, batch-processed
    c. manual based

    B) To what extent is your production system integrated with your accounting information system?
    a. Highly integrated
    b. Partially integrated
    c. No integration
    d. Future integration planned

22. Please describe the Japanese ownership % or type of joint venture of your business unit, and explain in what ways your business unit's cost accounting system differs from those in American companies.

____
____
____
____

23. Please add any additional comments: ______________________________

____
____
____

NOTES

1. Value engineering analysis is used to identify and evaluate the functions demanded by customers in products and services as well as to estimate the costs of creating those functionalities.
2. For each new product and major revision of an existing product, the target cost is jointly determined by the involved departments/functions. The target cost of a product is often the result of the use of an extensive cost database referred to as cost tables. Cost tables contain detailed estimates of the direct and indirect costs of various parts or activities depending on certain designated materials, manufacturing methods, and functions. Cost tables are used primarily to support production decision making by providing cost data on alternative manufacturing activities (see Yoshikawa Innes & Mitchell, 1990; Monden & Hamada, 1991).
3. Other studies that were considered for comparative purposes include these by Sakurai and Huang (1989), Kim and Song (1990), Green and Amenkhienan (1992), Dunk (1992), and Martin et al. (1992). These studies were included when information was not available in the Howell et al. (1987) and Scarborough et al. (1991) studies.
4. The Japanese survey by Scarbrough et al. (1991) consisted mostly of larger business units with 63 percent of the respondents having 500 to 10,000 employees. Howell et al. (1987) used a wide range of firms with absolute dollars in sales from under $10 million to over $5 billion per year.
5. Since this question permits multiple answers, the percentages sum to more than 100.
6. Green and Amenkhienan (1992) reported 45 percent of U.S. manufacturers use some degree of ABC systems.
7. In a study of 26 manufacturers in northern Britain, Dunk (1992) reported increased reliance on budgetary control systems to measure performance as manufacturing processes became increasingly automated.
8. Nonparametric statistical analysis was done using Friedman's two-way analysis of variance by ranks for related samples and the Wilcoxon test for related pairwise comparisons. The Friedman test statistic indicated differences in the distributions with respect to the seven investment criteria evaluated ($p < .001$). In the Wilcoxon tests, four groups were distinguished between the criteria: (1) quality/strategy, (2) competitiveness/customer service/economic, (3) market share, and (4)intuition ($p < .05$).
9. Annual cost method was included in the present study to compare with the results of the previous Japanese domestic survey by Scarbrough et al. (1991). This method was not listed among the investment criteria in the study of U.S. manufacturers (Howell et al., 1987) and is not commonly used in the U.S. for investment decisions.
10. Nonparametric test results of Friedman's two way analysis of variance indicated a significant difference in the distribution of rating among the five methods ($p < .01$). In performing pairwise comparisons, IRR was not rated significantly different from annual cost, but it was rated significantly different from payback, present value, and accounting rate of return ($p < .05$).

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The Compatibility of Multicurrency Accounting with Functional Currency Accounting

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Key Words: Multicurrency, Translation, Financial Accounting Board Statement 52 (FAS 52), Functional currency, Temporal, Restatement/Translation, International financial reporting

Abstract: *In today's high-tech and global economy, this study introduces multicurrency accounting as an effective tool to manage resources and compares its reporting capabilities with current generally accepted accounting principles. Further, it proposes a means to integrate multicurrency accounting into internal reporting and external reporting as supplemental disclosures. Multicurrency accounting has the merit of reflecting the true exposure position of each hard currency, in addition to the dollar-based consolidated financial statement. It lends itself readily to mark-to-market accounting; its application for external reporting is foreseeable in the near future.*

Global operations necessitate dealing in different currencies; the involvement may be extensive and intensive. United Parcel Service, for example, offers services in more than 200 countries and territories. Multinational enterprises (MNEs) frequently have transactions initiated and settled in two or more currencies. Transactions can be initiated in one currency, processed in a second, settled in a third, and reported in a fourth. Recording business transactions in a variety of currencies other than the reporting currency of the MNE is not addressed adequately by current generally accepted accounting principles (GAAP), which are based on a single reporting currency concept. Multicurrency accounting software is available to process and maintain records in multiple currencies, and has multiple language capabilities. Accounting standards have not kept pace, however, with information processing improvements.

The problem is illustrated by the results of telephone interviews with personnel at one large multinational company. Accounting personnel prepared single currency monthly statements and reports in conformity with Financial Accounting Standards Board (FASB) *Statement 52 (SFAS 52)* and questioned the relevance of suggestions that a multicurrency format might be used. Treasury does not use the accounting reports but must contact each

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of the foreign operations to obtain foreign currency holdings and anticipated foreign currency cash flows to manage foreign exchange transactions. Arrangements such as this, whereby data concerning the same business activity is maintained separately by accountants and nonaccountants, leads, however, to inconsistencies, information gaps, and information overlaps across the organization (Hollander, Dennan & Cherrington, 1996).

SFAS 52 provides authoritative guidance on translation of financial statements for purposes of preparing enterprise financial statements. This standard adopts the functional currency approach, which encompasses identifying the functional currency (the currency of the primary economic environment in which the entity operates), and measuring all elements of the financial statements in that functional currency. *SFAS 52* calls for consolidating financial statements of separate entities within an enterprise in a single reporting currency, even though MNEs operate in different economic and currency environments, because "it is not possible to combine, add, or subtract measurements expressed in different currencies" (Financial Accounting Standards Board, 1981, par. 4). Thus, *SFAS 52* utilizes a single currency concept for financial reporting in a multicurrency economic environment, even if transactions are initiated and settled, or remain open, in currencies that are neither the functional nor reporting currencies.

Large MNEs, especially large multinational banks, ordinarily have substantial holdings in foreign currency and foreign currency-denominated securities. Because *SFAS 52* requires the translation of multiple currencies into the reporting currency for financial reporting, the reports generated do not provide information about the holdings in each foreign currency. Volatility in foreign exchange markets can have a significant impact on a firm's earnings and presents a challenge in managing foreign exchange risk.

A series of recent articles has cited the inadequacy of the existing reporting systems. Forty senior financial executives, accounting educators, and consultants in a recent workshop sponsored by the American Institute of Certified Public Accountants (AICPA) assessing the future of managerial accounting reached consensus that operating managers will continue to lose confidence in the traditional reporting system and that no one financial report will meet everyone's needs (Zarowin, 1995). Steve M. H. Wallman, a commissioner at the U.S. Securities and Exchange Commission, expressed several concerns regarding financial reporting and disclosure not keeping pace with the changing business world. Among his concerns is the timeliness of financial reporting. Stating that traditional, aggregated corporate information is a product of past technology, he challenged accountants to consider whether more useful information could be generated by distributing disaggregated raw data to users. Aggregating information takes time, resulting in untimely data that are then disaggregated by analysts (Wallman, 1995).

The measurement of usefulness of disaggregated information is examined by Ijiri (1995). He differentiates capital from resources, asserting that capital is homogenous while resources are not. There is a difference in the information needed between those who manage capital versus those who manage resources. Because capital is homogenous, aggregated, and abstract, capital managers such as board members and top executives need highly aggregated information. On the other hand, resources are heterogeneous, disaggregated, and concrete. Managers of resources (general managers of a division) normally need much less aggregated information. As business diversifies and becomes global, industry and geographical disaggregations are rapidly gaining in significance. Ijiri concluded by proposing that a dual set of principles and standards should guide the prac-

tice of differentiating information on capital, for which we need to develop and implement global standards and information on resources, for which we need local standards that can vary from country to country or from industry to industry. Hence, it appears that the increasing globalization in the business world necessitates new reporting systems and disaggregated information appears to be growing in importance.

Nevertheless, the issue of presenting disaggregated data for external reporting is contingent upon the perception of investors, who are the sponsors and users of this information. The FASB exposure draft Reporting Disaggregated Information about a Business Enterprise (Financial Accounting Standards Board, 1996) reports a 1993 finding by the Association of Investment Management and Research (AIMR) that segment information is totally vital to AIMR members' work and that there is general agreement that the current segment reporting standard, *SFAS 14*, is inadequate.[1] Huge losses experienced by some multinational enterprises, such as Procter and Gamble on derivatives, can be a catalyst for change. Having information capable of revealing the position of each hard currency will benefit shareholders who wish to assess exposure and to gauge the effectiveness with which foreign exchange risk is managed. Although it is currently technically feasible to provide such detailed, disaggregated data, management may be reluctant to supply such useful information to investors unless it is mandated by regulations and/or competitive market pressures.

The potential loss of sensitive information is an important consideration that management will need to consider. Management may decide to present varying degrees of summarized forms, perhaps using materiality guidelines such as those prescribed in *SFAS 14* on segment reporting. This should not entail the work required in aggregating all data and does not entail reaggregation. Data are collected from detail and summarized by currency and then aggregated for financial presentation.

Based on this trend of thought, this paper proposes multicurrency accounting as an effective tool to manage resources and proposes its integration into the current reporting system. To evaluate foreign currency risk, to improve control, and to reduce accounting costs, management needs an accounting system that will enable recording transactions and monitoring assets and equities in all currencies and in one reporting system. Multicurrency accounting is also proposed to meet the needs of other financial statement users by efficiently informing them of foreign currency exposure. Companies might wish to report their financial statements through their web sites. As such, they could include spreadsheets that could be downloaded for financial analysis. Over half of the Fortune 150 already make financial information available through their web sites (Petrovic and Gillet, 1996). With multicurrency reporting, financial analysts in London, Bangkok, New York, or Tokyo could input the current exchange rate and immediately obtain financial statements in whatever currency is desired.

This article then has two objectives. First, it introduces multicurrency accounting and compares its reporting capabilities with current GAAP. Second, the article suggests a means to integrate multicurrency accounting into internal reporting and external reporting as supplemental disclosures.

MULTICURRENCY ACCOUNTING

Multicurrency accounting (MCAC), which simplistically reports financial amounts in their relevant currencies rather than restating transactions and accounts into a single

reporting currency, was introduced in the early 1970s in the United Kingdom (Meredith & Sheldon, 1972) and has subsequently been adopted by several prominent international banks. Unlike the functional currency concept advocated by *SFAS 52*, MCAC is not single currency reporting. With MCAC, an accounting record kept for each currency reveals the net exposed position of each currency. With this information, management can evaluate and take steps deemed necessary to safeguard against unfavorable shifts in currency value and then investors and financial analysts can be presented a clearer picture of foreign exchange exposure. Such disclosures would, of course, be supplemental and initially unaudited. The development of audited real time financial statements and supplemental disclosures await substantial enhancements in electronic data processing (EDP) auditing capabilities. The various currencies can still be presented as a part of the total picture by being restated and aggregated into the reporting currency for GAAP conforming consolidated financial statements.

MCAC is not in accordance with current GAAP and is not widely discussed in the literature. The major departure of MCAC from *SFAS 52* is in the way that it deals with the concept of the functional currency and the definition of foreign currency transactions. Under *SFAS 52* the U.S. dollar would be the reporting currency for a U.S. company and would represent the equivalent of all related foreign currencies in financial reports. Under MCAC, the dollar would be treated as just one of the global currencies in the financial statements. Business transactions denominated in a foreign currency are recorded in that currency. A separate set of accounts—assets, liabilities, and a balancing equity (spot conversion) account—are used as if the currency constituted a separate reporting entity. The equity account is measured at the spot rate unless the transaction is a forward purchase or sale, in which case a forward rate would be used. (See Note 1).

The account balance, debit or credit, in the spot conversion account is used to indicate whether an entity is long or short in a particular currency. If an entity's assets denominated in a foreign currency exceed its liabilities in that currency, the spot conversion account has a credit balance, which indicates that the entity is long in that currency. If an entity's liabilities in a foreign currency exceed its assets in that currency, the spot conversion account has a debit balance, which indicates that the entity is short in that currency.

If a foreign currency transaction involves only one currency, the assets in that currency will be offset by a liability or equity account of that same currency and there would be no foreign exchange exposure. Accordingly, the spot conversion account does not come into play. Only when a movement of funds occurs between currencies (a cross-currency transaction), creating a long or short position with respect to a currency, will the spot conversion account be affected. Tax implications of foreign earnings and expense may also imply a cross-currency transaction.

To illustrate multicurrency accounting, assume a cross-currency transaction in which a U.S. MNE obtained a British pound–denominated investment in debt securities of £500, financed by a dollar-denominated note payable of $1,000, when the spot rate was £1 = $2.

Under current GAAP, the transaction would be recorded as follows:

Investment in debt security	$1,000	
Notes payable		$1,000

The investment in debt is not redeemable in dollars, however, but will be settled in pounds; the note payable will be settled in dollars. This is a cross currency transaction under MCAC since the investment in pounds is in a different currency than the dollar currency that financed the investment. Accordingly, the entity is long in pounds and short in dollars. Ignored by *SFAS 52*, the exposure is clearly represented in multicurrency accounting with spot conversion accounts.

$Spot conversion account	$1,000	
Notes payable		$1,000
Investment in debt securities	£500	
£Spot conversion account		£500

If a transaction affects only one currency, even though that currency is a foreign currency, a usual journal entry suffices except that the journal entry is stated in the foreign currency. For example, assume that a branch office is opened in Thailand and 50,000 Thai baht is received from the issuance of a baht-denominated note when the exchange rate is $1 = B25. Assume also that the cash is to be expended in Thailand. Journal entries under *SFAS 52* and multicurrency accounting would be as follows:

SFAS 52

	Home Office's Books	
Investment in Branch	$2,000	
Notes payable		$2,000
	Branch's Books	
Cash,	B50,000	
Home office		B50,000

Multicurrency Accounting

	Home Office's Books	
Investment in Branch	B50,000	
Notes payable		B50,000
	Branch's Books	
Cash	B50,000	
Home Office		B50,000

There would be no exposure in this case because assets and liabilities will have the same command over or claim to foreign goods and services after a change in foreign exchange rates as existed before the change in foreign exchange rates. Consequently, the baht spot conversion account is not implemented. Even where there is no exposure, however, MCAC has an advantage over traditional accounting in efficiency of record keeping. Since the foreign currency will not be converted into US dollars, there is little point in recording the transactions in US dollars, which requires translation of each transaction. Instead, accounts will be kept in the foreign currency, with translation only at the time financial statements are prepared.

Statements of position under multicurrency accounting display the financial position of each currency as well as the consolidated amount in a base currency. If the U.S. dollar is the base currency, every currency other than the U.S. dollar is translated using the spot rates equal to the current exchange rates as of the balance sheet date. Likewise, all revenue and expense accounts are translated at the current rate. The end-of-year exchange rate is used because the financial statements prepared for external reporting are as of and for the year ended. This is the exchange rate that is both relevant and objective, because MCAC places emphasis on currency position. Given the underlying assumption that each currency is a functioning global currency, the translation is simply an expression to a currency that external users find easy to understand. The closing rate (or the current rate) is the appropriate exchange rate for translating income statement accounts to portray clearly the position of each currency at that certain point in time.

Expanded Illustration

Assume that the U.S. company has the following financial position on December 31, 1994, prior to the transactions just cited:

Cash,	$ 20,000	Common stock	$ 50,000
Accounts receivable,	40,000	Retained earnings	30,000
Plant & equipment,	60,000		
Accumulated depreciation,	(40,000)		
Total assets,	$ 80,000	Total equity	$ 80,000

The impact of these transactions in a multicurrency format is presented in Table 1 at January 1, 1995.

The multicurrency balance sheet reflects clearly the exposed position of each currency. The note payable and investment in the British pounds transaction is cross-currency, giving rise to exposure to foreign currency exchange risk, which is disclosed by the spot conversion accounts. The transaction in Thai baht is single currency. Since it was originated and will also be settled in Baht, there is no exposure to foreign exchange risk, and thus, there is no spot conversion account. However, the resulting cash is stated accurately in baht, not U.S. dollars. Thus, even when there is no foreign currency exchange exposure, MCAC has an advantage over conventional accounting for foreign currency transactions by maintaining accounts in their denominated currency.

If, in a single currency transaction, earnings are impacted, additional analysis is required. Assume a set of simple transactions. On January 1, 1995, the Thai branch acquires equipment with a 10 year life at a cash cost of B1,500. Assume also that for 1995, there was revenue of B4,000, depreciation expense of B150, cash expenses of B600, cash income taxes of B975, and net operating income of B2,275. Further assume that the revenue was uncollected at December 31, 1995. If the earnings cannot be repatriated to the reporting entity, there is no exposure, because foreign currency net assets and equity will always be measured in the same foreign currency. Income and retained earnings will be reported in the currency in which earnings will be retained.

Table 1. Multinational Company Multicurrency Accounting Balance Sheet

Debt Transaction $ Financed, Branch Transaction Baht Financed

Panel A: Home Office

	January 1, 1995				December 31, 1995			
Assets	$	Pounds	Bahts	Combined $	$	Pounds	Bahts	Combined $
Cash	20,000			20,000	20,000			20,000
Accounts Receivable	40,000			40,000	40,000			40,000
Investment in Debt Sec.		500		1,000		500		1,000
Investment in Branch			50,000	2,000			52,275	2,614
Property, Plant, & Equipment	60,000			60,000	60,000			60,000
Accumulated Depreciation	(40,000)			(40,000)	(40,000)			(40,000)
Total Assets	80,000	500	50,000	83,000	80,000	500	52,275	83,614
Liabilities & Owner's Equity								
Notes Payable	1,000		50,000	3,000	1,000		50,000	3,500
Common Stock	50,000			50,000	50,000			50,000
Retained Earnings	30,000			30,000	30,000			30,000
Net Operating Income							2,275	114
Foreign Exchange Gain (Loss)								
$/£ Spot Conversion Account	(1,000)	500			(1,000)	500		
$/Baht Spot Conversion Account								
Total Liab. & Owners' Equity	80,000	500	50,000	83,000	80,000	500	52,275	83,614

(Table 1 continues on next page)

Panel B: Branch

	January 1, 1995				December 31, 1995			
				Combined				Combined
Assets	$	Pounds	Bahts	$	$	Pounds	Bahts	$
Cash			50,000	2,000			46,925	2,346
Accounts Receivable							4,000	200
Investment in Debt Sec.								
Investment in Branch								
Property, Plant,& Equipment							1,500	75
Accumulated Depreciation	–	–			–	–	(150)	(7)
Total Assets	0	0	50,000	2,000	0	0	52,275	2,614
Liabilities & Owners' Equity								
Notes Payable								
Home Office			50,000	2,000			50,000	2,500
Net operating income							2,275	114
Foreign exchange gain (loss)								
$/£ Spot Conversion Account								
$/Baht Spot Conversion Acct.	–	–			–	–		
Total Liab. & Owners' Equity	0	0	50,000	2,000	0	0	52,275	2,614

Note: Exchange Rates: Jan 1, 1995, $1 = £.5, B25; Dec 31, 1995, $1 = £.5, B20.

If earnings can be repatriated, net assets may be converted to the base currency and, therefore, changes in foreign currency exchange rates impact net assets in real terms. In such cases, a cross-currency relationship exists and the spot conversion account becomes necessary. MCAC closing journal entries if earnings can be repatriated would be as follows:

Home Office's Books

Investment in branch	B2,275	
B/$ Spot conversion account		B2,275
$/B Spot conversion account	$114	
Revenue		$114

Branch's books

Income summary	B2,275	
Home Office		B2,275

If earnings can not be repatriated, the home office would recognize the increase in its investment account as shown, but would not credit the B/$ Spot conversion account because no exchange risk exists. Instead, the increase would be recorded in the baht retained earnings, similar to the treatment afforded by *SFAS 52*. The closing accounting entry under MCAC if earnings can not be repatriated and are intended to be reinvested locally would be as shown:

Branch's Books

Income summary	B2,275	
Home office		B2,275

The impact of these transactions is shown in the amounts for December 31, 1995, in Table 1 (Panel B). Assume the $/£ exchange rate remains unchanged but that the December 31, 1995, $/B exchange rate moved to $1 = B20.

Table 2 illustrates the reporting if the investment in the Thai branch is financed in U.S. dollars but earnings cannot be repatriated. The same set of facts used in Table 1 is assumed in Table 2 except for U.S. dollars financing instead of Baht financing. As shown in Table 2, the financing has no impact on assets. The assets are the same regardless of the currency used to finance the foreign operations.[2]

If the dollar is strengthened or weakened against pounds or bahts, the spot conversion account will have to be adjusted to reflect the change. In this case, the strengthening of the baht currency gives rise to a gain of $500. The debit balance in the dollar spot conversion account reflects the short position at December 31, 1995, of $1,000 relative to the investment in pounds and $2,500 relative to the investment in baht. Thus, MCAC accounting balance sheet expresses the exposed position of each currency and also reveals exchange gains or losses resulting from the change in exchange value between two related currencies translation based on current exchange rates.

Similar to the spot conversion account, forward conversion accounts express the position of foreign currency arising from forward purchases and sales. For example, a forward contract to receive £1,000 in 90 days at $2.10 under *SFAS 52* would require the following journal entry:

Table 2. Multinational Company/Multicurrency Accounting Liabilities and Owners' Equity

Debt Transaction $ Financed, Branch Transaction $ Financed

Panel A: Home Office

	January 1, 1995				December 31, 1995			
				Combined				Combined
Assets	$	Pounds	Bahts	$	$	Pounds	Bahts	$
Cash	20,000			20,000	20,000			20,000
Accounts Receivable	40,000			40,000	40,000			40,000
Investment in Debt Sec.		500		1,000		500		1,000
Investment in Branch			50,000	2,000			52,275	2,614
Property, Plant, & Equipment	60,000			60,000	60,000			60,000
Accumulated Depreciation	(40,000)	—	—	(40,000)	(40,000)	—	—	(40,000)
Total Assets	80,000	500	50,000	83,000	80,000	500	52,275	83,614
Notes Payable	3,000			3,000	3,000			3,000
Common Stock	50,000			50,000	50,000			50,000
Retained Earnings	30,000			30,000	30,000			30,000
Net Operating income							2,275	114
Foreign exchange gain(loss)					500			500
$/£ Spot Conversion Account	(1,000)	500			(1,000)	500		
$/Baht Spot Conversion Account	(2,000)	—	50,000	—	(2,500)	—	50,000	—
Total Liab. & Owners' Equity	80,000	500	50,000	83,000	80,000	500	52,275	83,614

(*Table 2 continues on next page*)

Panel B: Branch

Assets	January 1, 1995 $	Pounds	Bahts	Combined $	December 31, 1995 $	Pounds	Bahts	Combined $
Cash			50,000	2,000			46,925	2,346
Accounts Receivable							4,000	200
Investment in Debt Sec.								
Investment in Branch								
Property, Plant,& Equipment							1,500	75
Accumulated Depreciation							(150)	(7)
Total Assets	0	0	50,000	2,000	0	0	52,275	2,614
Liabilities & Owners'Equity								
Notes payable								
Home office			50,000	2,000			50,000	2,500
Net operating income							2,275	114
Foreign exchange gain(loss)								
$/£ Spot Conversion Account								
$/Baht Spot Conversion Account								
Total Liab. & Owners'Equity	0	0	50,000	2,000	0	0	52,275	2,614

Note: Exchange Rates: Jan 1, 1995, $1 = £.5, B25; Dec 31 1995, $1 = £.5, B20.

Foreign currency receivable	\$2,100	
Forward exchange contracts payable		\$2,100

Under MCAC, the transaction would reflect the cross-currency exposure with forward conversion accounts:

Foreign currency receivable	£1,000	
£Forward conversion account		£1,000
\$Forward conversion account	\$2,100	
Forward exchange contracts payable		\$2,100

The sum of the spot and forward positions makes up the net position of a particular currency and is a residual or balancing amount. As a residual interest, the conversion accounts cannot be determined independently of assets and liabilities and other equity elements. Consistent with FASB *Statement of Concept No. 6*, its amount is "the cumulative result of investment by owners, comprehensive income, and distribution to owners" (Financial Accounting Standards Board, 1986, par. 214).

Because the residual interest in each currency is the spot or forward position account, any change in the exchange rate will affect the spot or forward position account in conjunction with a resulting exchange gain or loss or equity adjustment. Hence, the recognition of exchange gains and losses under MCAC adheres to the capital maintenance concept, which is not as detailed as the transaction approach in recognizing income or loss. Under the transaction approach, changes in exchange rates will give rise to an exchange gain or loss and will necessitate adjustment of the account that causes the exposure. For example, in the event of a foreign currency–denominated sale, a devaluation of the foreign currency will result in a lower dollar receipt in tandem with an exchange loss. Likewise, MCAC will account for an exchange loss. However, the counter entry is simply to the spot conversion account rather than tracking to the original source of the exposure. There is a similarity between MCAC and functional currency under *SFAS 52* in recognizing gains and losses. Despite the fact that the functional currency follows closely the transactions approach in having to adjust the related originating account for the changes in exchange rates, exchange gains and losses are recognized with no distinction between unrealized (interim reporting) and realized (settlement). In the same way, any change in the exchange rate will generally affect the spot and/or forward conversion accounts and the exchange gains or losses two times after the originating date. They are updated during the interim balance sheet date and at the settlement date without having to differentiate between unrealized and realized.

For preparation of consolidated financial statements, those accounts stated in a foreign currency will be translated into the reporting currency using the current rate. Spot and forward conversion accounts will offset and will not be carried forward to the consolidated totals. But having the position equity accounts assists users to know precisely the position in each currency and allows analysis between spot, forward, and open positions.

Reporting with Hyperinflation

SFAS 52 requires the temporal method to be used, regardless of functional currency considerations, when an economy has cumulative inflation of approximately 100 percent

or more over a three-year period. The temporal method recognizes translation gains/losses on the income statement.

The International Accounting Standards Committee (IASC), on the other hand, advocates the restatement/translation method, in which the foreign branch's currency must first be restated in accordance with *IAS 29* using general price-level indices before translation (International Accounting Standards Committee, 1995). The closing rate is used for balance sheet and income statement accounts except that stockholders' equity accounts are translated at historical rates. Translation gains and losses are not recognized currently but are reported in the equity section of the balance sheet. The rationale is the lack of direct effect of changes in exchange rates on the present and future cash flows from operations of either the foreign entity or the reporting entity.

One theory used in explaining the movements of foreign exchange rates is the purchasing power parity theory. According to it, changes in exchange rate are proportional to changes in the ratio between foreign and domestic prices (Aliber and Stickney, 1975). Hence, changes in exchange rates and price levels are offsetting. Exchange rates are assumed to reflect the respective changes in consumer price indices.

MCAC nonmonetary accounts differ from amounts reported by the temporal and restatement/translation methods. MCAC applies the closing rate to all accounts, both monetary and nonmonetary. MCAC will not reflect economic substance in a highly inflationary economy if the purchasing power parity theory holds. The closing rate, encompassing the change in general price level, has the potential to cause plant and equipment to disappear when inflation is extremely high. This disappearing plant problem manifests the deficiency of MCAC in assuming that all balance sheet items will reflect effects of inflation.

To reflect economic substance in financial reporting, MCAC should be modified by applying the restatement/translation method of accounting for foreign operations in hyperinflationary economies, as advocated by *IAS 21*. By first restating for general purchasing power changes, all balance sheet items will be converted from a mixed bag of different units of purchasing power to the same general level of purchasing power at the end of the year. For example, assume that plant assets were purchased for 1,500,000 baht on January 1, when the general price level was 100 and the exchange rate was $1 = 25 baht. The translated plant assets would be 1,500,000 Baht ./. 25 baht/$ = $60,000. Assume that at December 31 the general price level is 150 and the baht devalues to 37.5 baht to the dollar. Plant assets would be restated to 150/100 times 1,500,000 = 2,250,000. The translated balance would be 2,250,000 Baht ./. 37.5 Baht/$ = $60,000. Thus, restatement for price-level changes for foreign operations in a hyperinflationary economy is consistent with retaining the objectivity of historical cost of nonmonetary accounts. Table 3 presents a summary of the effects of different translation methods on operating income, translation gain–loss, and cumulative translation adjustment.

Investment and Financing in the Same Currency (baht financed)

Multicurrency accounting reflects less fluctuation and relatively higher net income than the restate/translate method, due to MCAC's omission of purchasing power loss. Further, when financing for the investment in a foreign branch is in the same currency as the investment, there is a natural hedge, and MCAC does not reflect any exchange gains or losses.

Table 3. Reporting in Hyperinflationary Economies

	Multicurrency		*Restate/Translate*		*Temporal*	
	1995	*1996*	*1995*	*1996*	*1995*	*1996*
BAHT FINANCED						
Net operating income	$61	$52	-$588	-$144	$79	$46
Translation gain,-loss	0	0	0	0	7	-8
Cumulative translation adj.	0	0	667	857	0	0
DOLLAR FINANCED						
Net operating income	-$606	-$138	-$588	-$144	-$588	-$144
Translation gain,-loss	-667	-190	0	0	-660	-198
Cumulative translation adj.	0	0	0	0	0	0

Assumptions:

	$/Baht Exchange Rate	General Price Level	Branch Income Statements	Bahts 1995	Bahts 1996
January 1, 1995	25	100	Revenue	4,000	4,000
December 31, 1995	37.5	150	Administrative expense	600	600
1995 average	31.25	125	Depreciation expense	150	150
December 31, 1996	43.75	175	Income tax expense	975	975
1996 average	40.63	162.5	Total expense	1,725	1,725
			Net income	2,275	2,275

Note: See Appendix for computations of comparative financial statement effects.

Application of the restate/translate method results in losses of \$588 and \$144 in 1995 and 1996, attributable largely to losses in purchasing power. These losses would have been offset by foreign exchange gains if the exchange gains had been recognized currently. Because the exchange gains were related to a going concern investment, however, they were reported in equity as cumulative translation adjustments.

The results of MCAC and the temporal method are very similar, which can be attributed to the natural hedge perceived under MCAC corresponding to the economic reality reflected under the temporal method. The exchange gain from holding a foreign currency note payable is offset by the exchange loss from the investment in the foreign branch when the baht declines in value. The slight difference is due to the difference between the average exchange rate applied by the temporal method versus the closing rate required in MCAC. For enterprises such as banks, which run daily financial statements, there may not be a difference because the daily closing rate will correspond closely to the average exchange rate from the daily updating.

Cross-Currency Transactions (dollar financed)

There is no change in net operating income under restate/translate between financing in the local currency or some other currency. In the case of cross-currency financing, however, MCAC reflected significant translation losses due to the drastic devaluation of bahts in 1995. The same phenomenon to a lesser degree was manifested in 1996. Under the restate/translate method, there is no exposure to the liability in a foreign currency. Consequently, there is no exchange gain. There are material losses, however, attributed to purchasing power losses in both 1995 and 1996.

Both the temporal and MCAC methods reflect significant net losses in 1995 and smaller losses in 1996. The financial performance of the enterprise is significantly different from financing in the local currency. Net losses are attributed to the translation losses from the investment in a foreign branch whose currency has devalued drastically owing to the high inflation in the local economy. Because financing is in dollars, there is no exchange gain from the liability to counterbalance the exchange loss in the investment.

To summarize, MCAC and the temporal method generate results that are very similar when the foreign branch has a highly inflationary economy regardless of the source of financing. Both appear to reflect the true economic substance by revealing the effect of the presence as well as the absence of a natural hedge. The slight difference in amount is due to the difference between the closing rates and the average rate and historical rate for nonmonetary accounts. Hence, if a foreign enterprise in the service industry is not heavily capital intensive, the results generated under the MCAC method and the temporal method should be very similar.

COMPARISON BETWEEN MULTICURRENCY ACCOUNTING AND GAAP

Multicurrency accounting and functional currency accounting differ in reporting foreign exchange rate exposure. However, depending on interpretation, there may be little or no difference in reporting foreign exchange gains and losses. If a transaction is cross-currency, both MCAC and functional currency accounting report translation gains and losses

in net income. If a transaction is in one currency and is not cross-currency, MCAC will not report any foreign exchange gain or loss, because there is no foreign currency exposure. Under functional currency accounting, translation gains and losses are reported as a separate component of stockholders' equity if the functional currency is the local currency and "settlement is not planned or anticipated in the foreseeable future" (Financial Accounting Standards Board, 1981, par. 20.b.).

What if settlement is anticipated in the near future? Assume that a U.S. company borrows and invests in a single foreign currency. Under MCAC, the transaction would not be cross-currency. Under functional currency accounting, gains and losses that otherwise would be carried to income will offset. The net difference under MCAC and functional currency accounting will be nil.

Thus, MCAC reflects a faithful representation of economic reality. When the dollar is used to finance a pound investment, there is indeed a short position in the dollar account and a long position in the pound. A revaluation of the pound creates a gain or loss in the consolidated statement. When the pound is used to finance a pound investment, no gain or loss is reported. The gain from the investment is offset by the loss attributable to the liability.

INTEGRATION OF MULTICURRENCY ACCOUNTING INTO GAAP

The analyses reflect the merits of MCAC in portraying the true economic position of each currency. While MCAC is an effective device to help gauge the performance of the treasurer and funds manager, multinational enterprises are responsible to report to their shareholders, who are primarily interested in their investment in some base currency. Hence, MCAC cannot be used as a substitute for functional currency accounting but should be used as an essential supplementary reporting tool, providing analysts with disaggregated data that can be restated in any currency desired.

Existing advanced software technology has the capacity to handle MCAC as well as financial reporting and accounting under *SFAS 52*.[3] For multinational enterprises using multicurrency accounting for both internal and external purposes, the integration of FAS 52 can be accomplished by converting from the closing rate method to either the temporal method or the current rate method, depending on the functional currency. Consistent with Kirsch and Becker-Dermer's observation, the current rate method under FAS 52 is in essence a multiple-currency approach. The only difference is in the translation of income statement accounts between using the closing rate or average rate. The temporal method, on the other hand, is a one-currency approach (Kirsch & Becker-Dermer, 1995). Hence, a reconciliation must be made for items that are nonmonetary on the balance sheet, as well as their related accounts on the income statement. In addition, as in the current rate method, reconciliation is required for income statement accounts that require the application of average exchange rates under the temporal method from closing rates to average rates.

A shown in Table 4, using Table 1 assumptions, Investment in Branch is a nonmonetary item that requires historical exchange rate for remeasurement under the temporal method. When the baht strengthens, MCAC will reflect a higher dollar investment than that generated by the temporal method, which applies the lower historical exchange rate. Another deviation required for both the current rate method and the temporal method is the adjustment of income from the closing rate to the average rate. As the foreign currency revalues,

Table 4. Multinational Company/Comparative Financial Statements

	December 31, 1995			*Combined MCAC*	*Current Rate SFAS 52*	*Temporal SFAS 52*
Assets	*$*	*Pounds*	*Bahts*	*$*	*$*	*$*
Cash	20,000			20,000	20,000	20,000
Accounts Receivable	40,000			40,000	40,000	40,000
Investment in Debt Securities.		500		1,000	1,000	1,000
Investment in Branch			52,275	2,614	2,614	2,103 c
Property, Plant, & Equipment	60,000			60,000	60,000	60,000
Accumulated Depreciation	(40,000)			(40,000)	(40,000)	(40,000)
Total Assets	80,000	500	52,275	83,614	83,614	83,103
Liabilities & Owners' Equity						
Notes Payable	1,000		50,000	3,500	3,500	3,500
Common Stock	50,000			50,000	50,000	50,000
Retained Earnings	30,000			30,000	30,000	30,000
Net Operating Income			2,275	114	101 a	103 b
Foreign Exchange Gains/Losses					0	(500) e
Cumulative Transl. Adjustment					13 d	
$/L Spot Conversion Account	(1,000)	500				
Total Liab. & Owners' Equity	80,000	500	52,275	83,614	83,614	83,103

Notes: a. 2,275/22.5
b. Revenues 4,000/22.5 - [Expenses (600+975)/22.5 + Depreciation 150/25]
c. 50,000/25 + b
d. Total assets 52,275/20 - Total liabilities 50,000/20 - Operating income 2,275/22.5
e. (50,000/20) - (50,000/25)

Assumptions: Debt Transaction $ Financed, Branch Transaction Baht Financed
Exchange Rates: Jan. 1, 1995, $1 = £.5, B25; Dec. 31, 1995, $1 = £.5, B20; Average rate $1 = B22.5

Reconciliation of MCAC Operating Income to SFAS 52 Operating Income - Current Rate Method

MCAC Operating Income	$114
Less: Difference between average rate and closing rate in translating operating income (2,275/20) - (2,275/22.5)	-13
	$101

Reconciliation of MCAC Operating Income to SFAS 52 Operating Income - Temporal Method

MCAC Operating Income	$114
Less: Difference between average rate and closing rate in translating revenues (4,000/20) - (4,000/22.5)	-22
Add: Difference between historical rate and closing rate in translating depreciation (150/20) - (150/25)	2
Add: Difference between average rate and closing rate in translating other expense accounts (600 + 975)/20 - (600 + 975)/22.5	9
	$103

Reconciliation of Nonmonetary Items - MCAC to SFAS 52 (Temporal Method)

MCAC Investment in Branch	$2, 614
Less: Difference between historical rates and closing rate on investment in branch (50,000/25) - (50,000/20) + (b) - (2,275/20)	-511
	$2,103

net operating income under the current rate method is lower than MCAC income. Adjustment is, hence, made by subtraction. The reconciliation of the temporal method, on the other hand, requires both subtraction and addition, since the strengthening of the foreign currency gives rise to smaller dollar revenues as well as expenses.

While MCAC requires some adjustments to comply with current GAAP, the current trend of moving toward fair value accounting will minimize the difference between

MCAC and functional currency accounting. Unlike the environment in the early 1980s when *SFAS 52* was issued, today's financial markets are characterized by significant technological advancements and volatility in market prices. Market risk is in the spotlight, even in the financial accounting arena. Investors are now educated to look not only at the return but also at risk. For example, *SFAS 119*, "Disclosure about Derivative Financial Instruments and Fair Value of Financial Instruments" requires the disclosure at fair value of derivative financial instruments held or issued for trading purposes. In addition, it requires the discussion of market risk of all derivative financial instruments and encourages the disclosure of quantitative information about interest rate, foreign exchange, commodity price or other market risks of derivative financial instruments. Among the methods of quantitative reporting encouraged by *SFAS 119* are more details about current positions and the entity's value at risk from derivative instruments (Financial Accounting Standards Board, 1994, par. 13).

Multicurrency accounting lends itself readily to mark-to-market accounting. Its capability to portray the true position of each currency facilitates the computation of the volatility of returns due to market risks. Hence, its application for external reporting is expected in the near future.

CONCLUSION

As the global economy becomes increasingly competitive and foreign currency exchange markets remain volatile, multicurrency accounting is an essential tool to help management not just to monitor but also to plan and adjust to changes in the global market. With the high volume of global trade in various currencies, MCAC provides the convenience, minimum cost, and effective means to manage foreign exchange exposure. The true position of each currency generated by MCAC is a merit that current conventional accounting lacks. U.S. firms should seriously look into this accounting system, which promises to be on the cutting edge to global reporting in the emerging 21st century.

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APPENDIX TO TABLE 3

Computations of Financial Effects of Accounting in Hyperinflationary Economies

Multicurrency

Multicurrency accounting is a model of simplicity. If transactions are Baht financed, there is no transaction gain or loss or cumulative translation adjustment. Baht financed net operating income is given by dividing local net income by the end of the year exchange rate. In this case Baht 2,275 ./. 37.5 and 43.75 for 1995 and 1996, or $61 and $52 respectively.

If transactions are dollar financed, there are exchange gains and losses. Translation gains and losses are given by comparing beginning and ending cross currency positions, adjusted for changes in exchange rates:

January 1, 1995 Cross currency position Baht 50,000 ./. 25	$2,000
December 31, 1995: Cross currency position Baht 50,000 ./. 37.5	1,333
Translation gain -loss	$- 667

January 1, 1996: Cross currency position Baht 50,000 ./. 37.5	$1,333
December 31, 1996: Cross currency position Baht 50,000 ./. 43.75	1,143
Translation gain - loss	$- 190

Dollar financed net income is given by adding branch net income to translation gains or losses.

	1995	1996
Branch net operating income	$ 61	$ 52
Translation gains -losses	-667	-190
Dollar financed net operating income	$-606	$-138

Restatement/Translation

Restatement/translation requires branch financial statements to be restated for changes in the general price level before translation. Restatement for price level changes is presented below.

	1995			1996		
		Price level			Price level	
	Historical	Adjustment	Restated	Historical	Adjustment	Restated
Net monetary assets, January 1	50,000	150/100	75,000	50,925	175/150	59,413
Increases - revenues	4,000	150/125	4,800	4,000	175/162.5	4,308
Decreases:						
Administrative expenses	600	150/125	720	600	175/162.5	646
Income tax expense	975	150/125	1,170	975	175/162.5	1,050
Purchase of equipment	1,500	150/100	2,250			
Total decreases	3,075		4,140	1,575		1,696
Net monetary assets, December 31	50,925		75,660	53,350		62,025
Net monetary assets (nominal dollars)			50,925			53,350
Purchasing power gain (loss)			(24,735)			(8,675)

Branch Income Statement Restated for Changes in General Price Levels
Year Ended December 31,

	1995			1996		
	Nominal Baht	Price Level Index	Constant Baht	Nominal Baht	Price Level Index	Constant Baht
Revenue	4,000	150/125	4,800	4,000	175/162.5	4,308
Administrative expense	600	150/125	720	600	175/162.5	646
Depreciation expense	150	150/100	225	150	175/100	263
Income Tax expense	975	150/125	1,170	975	175/162.5	1,050
Total expense	1,725		2,115	1,725		1,959
Net operating income	2,275		2,685	2,275		2,349
Purchasing power loss			(24,735)			(8,675)
Net income (Baht)			(22,050)			(6,326)
Net Income (Baht)			(22,050) ./.			(6,326) ./.
Baht/$ Exchange rate at December 31			37.5			43.75
Net income ($)			($588)			($144)

dominant Anglo-American accounting system, which by tradition is strictly capital-market oriented.

The debate about the pros and cons of an adjustment of German accounting to "international standards" has been long and controversial. For some time now, however, a consensus has been emerging and a reform of the current German Commercial Code (the "Handelsgesetzbuch", HGB) appears imminent. According to the draft of the new bill, German corporations in future will have the option of preparing their consolidated financial statements according to traditional German accounting rules, International Accounting Standards (IAS),[1] or US-American Generally Accepted Accounting Principles (US-GAAP).[2] Accounting practice anticipates this legislative process: in order to respond to the information needs of capital markets, a growing number of large German enterprises have already adopted international standards in their consolidated financial statements, either IAS (Bayer, Schering) or US-GAAP (Daimler-Benz, Deutsche Telekom).[3]

In autumn 1994, in the early stages of the current discussion, C&L Deutsche Revision AG, a member of Coopers & Lybrand International, carried out an empirical study on global accounting harmonization. The study addressed itself to senior financial managers of large German corporations ("börsennotierte Aktiengesellschaften") and to university professors of accounting. Questionnaires were sent to 80 companies and 66 professors. Of these, 63 managers and 43 professors decided to take part in the study.[4] The participants were questioned about their attitude towards different aspects of a global harmonization of accounting principles and the possible adaptation of German accounting to Anglo-American standards. The most important findings of the C&L Industry Study can be summarized as follows:[5]

Managers' attitude towards the current German accounting system was predominantly positive. With regard to the information value for investors in capital markets, they did not consider US accounting to be superior. Professors, in comparison, viewed German accounting more critically and US accounting more positively.

Asked about their opinion of specific US-GAAP principles, the managers' attitudes were in most cases sceptical or negative. Professors expressed more divergent views.

The vast majority of the German experts were open, in principle, to adopting international accounting standards. However, almost all participants wanted to see harmonization limited to consolidated financial statements.[6] Managers preferred to give German companies the option of preparing their consolidated financial statements under HGB, IAS or US-GAAP. Academics, on the other hand, voted for IAS to become an obligatory set of principles for consolidated financial statements.

Apart from these general observations, the empirical study produced the following striking result. *In all questions* throughout the study, managers adopted a more positive attitude towards current German accounting than professors; *all statements* referring to Anglo-American accounting were evaluated more negatively by managers than by professors. For example, when asked to assess individual US-GAAP regulations, managers *in all cases* showed a lower degree of approval (or, a higher degree of disapproval) than academics. With few exceptions, all these differences between the answers submitted by the two sub-samples were statistically significant.[7]

The present paper attempts to explain the systematic differences between the attitudes of German managers and professors towards accounting harmonisation and, in particular, Anglo-American accounting principles. Our fundamental assumption is that the observed differences can be put down to the specific interests of the participants, and detailed

hypotheses substantiating this contention will be developed and tested. More precisely, we shall consider whether the answers submitted by executive managers to selected questions of the C&L Industry Study can be explained by structural features of their respective companies (size, degree of internationalization, other balance sheet data etc.). Multiple regression analysis will be used to test these relationships.

The paper is organized as follows: In part II, we explain the views and objectives managers can hold with regard to US and German accounting. Based on these considerations, hypotheses are deduced in part III with regard to the German managers' responses in the C&L Industry Study and the relationship of these responses to structural features of their enterprises and other variables. In part IV, the data used in the analysis are explained, after which the results of the study are presented and discussed. The paper concludes with a short summary of the results.

HGB VERSUS US-GAAP: THE INTERESTS OF CORPORATE MANAGERS AND PROFESSORS

Within the C&L Industry Study, managers and professors were asked about the advantages and disadvantages of adjusting German accounting to international standards. Had all the participants been without any personal interest in the matter, they could have used the overall efficiency of the German economic and financial system as the criterion for their assessment. They could have taken into consideration the interests of all users of balance sheet data (investors, creditors, employees, the state, the general public, etc.) and could have impartially evaluated current and potential future accounting regulations. In such an idealized scenario, and assuming the same distribution of knowledge within both groups, systematic differences between the answers of managers and professors would not have occurred.

In reality, however, participants' answers in empirical studies are always influenced by their individual values, experiences, and objectives. In order to explain the systematic differences in the answers of managers and professors in the C&L Industry Study, we shall consider how the values, experiences and objectives, or in economic terms, the utility functions of the members of both groups, differ from each other with regard to the subject of the study. In order to clarify our point, we will assume that the behaviour of all participants is adequately described by the *homo-oeconomicus* model.

Let us first examine the position of the professors. A reform of the current Commercial Code will lead to a devaluation of German accounting professors' know-how. However, it can be assumed that it will be relatively easy for them, i.e. easier than for other affected groups, to acquire expert knowledge of new accounting regulations as well as knowledge of the differences to the old system, transition rules etc. In this way, the value of professorial know-how may actually increase in the transition period from the old to the new law and be reflected in attractive possibilities for publications, seminars etc. Hence, it cannot be established clearly whether German professors, on the whole, will enjoy utility gains or suffer losses as a result of changes in the accounting system. In the interest of simplicity we shall assume that their utility will not be affected one way or the other and that their answers in the C&L Industry Study were not biased by personal interests which led them to prefer or reject either current German accounting rules or Anglo-American accounting standards.

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In contrast, we must suppose that German managers, when asked for their opinion on accounting principles, will answer subjectively, influenced by both the interests of their companies and their own, personal objectives. This point warrants some further elaboration. Financial accounting of public corporations is intended to provide investors, as well as other interested parties (creditors, employees, unions, etc.), with information relevant to their decision making.[8] Managers will therefore assess accounting rules on the basis of whether they exert a positive or negative influence on their company's "picture" in the accounts. In addition, in Germany as well as in other European countries, single company financial statements (not consolidated financial statements) form the legal basis for dividend payments, and commercial income via the tax-base function of financial accounting also constitutes the basis for the calculation of taxable income ("Massgeblichkeitsprinzip").[9] Thus, managers striving to minimize their companies' tax burdens will try to assess the impact of accounting rules on earnings. Rules leading to higher earnings or to an earlier realization and, therefore, to higher tax bills will be viewed negatively. Scope and options, on the other hand, are regarded most highly because they allow managers to follow deliberate accounting policies.[10]

So far, managers' objectives with regard to accounting regulations have been described from the perspective of the firm. No mention has been made of possible conflicts of interest between owners and managers. Such "agency conflicts" can emerge, especially in large public corporations, when managers act not in the interest of shareholders but in their own personal interests. The practical relevance of agency conflicts depends on whether shareholders can observe and safely evaluate the managers' conduct.[11] Financial accounting, in this context, can be interpreted as an instrument which aims to reduce information asymmetries between shareholders and managers.

A meaningful evaluation of managerial performance requires that earnings be assigned as precisely as possible to the periods in which they accrue. Managers who do not wish to be controlled too closely by the capital markets will prefer rules which allow them discretion for accounting policies. Scope and options for accounting and valuation enable managers to accumulate silent reserves. Such reserves may be capitalized later in less profitable years. Management can thus continuously show an "appropriate" level of profits and thereby escape the scrutiny of capital markets.

A further assumption following from agency-theoretical considerations is that managers in their corporate decision-making do not follow the goal of profit maximization. Instead, it is argued, they strive to maximize the size of the firm, because managers' personal objectives (income, power, prestige etc.) can be fulfilled best by building large corporations ("empire building"). Therefore, management can be expected to pay only minimal dividends to shareholders. Whenever possible, cash will be reinvested, even when the expected return on investments is lower than the true cost of capital ("free-cash-flow thesis").[12] From this it follows that managers will again prefer acounting rules that allow them to accumulate hidden reserves, since such reserves lower earnings which may have to be paid out in dividends to shareholders.[13, 14]

Comparing German and US accounting with respect to the above, one finds that the current German Commercial Code contains considerably more scope and options than US-GAAP. German managers enjoy greater freedom to accumulate and transfer hidden reserves and, thus, smooth their companies' profits.[15] This can be explained by differences between the functions of accounting in the two countries. According to German

tradition, the primary function of financial accounting is the conservative determination of "distributable income", i.e. that part of the actual income of the company that can be paid out to shareholders without impairing the position of the creditors or the long-term prospects of the firm.[16] In the U.S., on the other hand, the primary function of financial accounting is to provide investors with information relevant to their decision making, and the overriding accounting principle therefore is the true-and-fair-view principle ("fair presentation").[17] Because of this, the accrual principle is observed very strictly and few possibilities exist for accumulating hidden reserves. Hence, profits reported by US corporations tend to be, on average, higher and, secondly, more volatile than they would be according to German commercial law.[18]

EMPIRICAL STUDY

Hypotheses

The considerations made in the foregoing section lead us to the conclusion that the current German accounting system is more "manager-friendly" than its US counterpart. It is quite understandable, therefore, for German managers to oppose the adoption of Anglo-American accounting standards. Having thus explained in general why executive managers in the C&L Industry Study adopted a more negative attitude towards US accounting than the professors, we shall now develop more detailed hypotheses which can then be tested empirically. Two groups of hypotheses will be examined: (a) hypotheses on managers' *general attitudes* towards adapting German accounting to Anglo-American standards; and (b) hypotheses on their attitudes towards *specific US-GAAP regulations.*

General Hypotheses

German enterprises have to prepare their annual reports according to rules which are not oriented towards the information needs of investors. Because of this, it is argued, they will be disadvantaged in the global capital markets, i.e. they will have to bear higher costs of capital. The adoption of IAS by some large German corporations is also explained by the information requirements of international investors. From this line of argument, we can derive the following hypotheses on the attitudes of executive managers towards Anglo-american accounting: *The acceptance of Anglo-American accounting norms by German executive managers will be stronger, ceteris paribus,*

H_{A1}: the larger the proportion of the equity capital of their respective companies held by foreign investors;

H_{A2}: the stronger the desire of the respective companies to attain a wider international distribution of their equity capital;

H_{A3}: the more active the companies are as borrowers in the international financial markets (Euro-markets);

H_{A4}: the greater the companies' need for additional capital.

An important role in the German accounting debate has been played by the US-American Securities and Exchange Commission (SEC). The SEC has consistently refused foreign companies a listing of their shares on the New York Stock Exchange (NYSE), the world's biggest stock exchange, unless they submit annual reports in accordance with US-GAAP, or a reconciliation of the firms' home-country financial statements with US-GAAP. It seems reasonable to suppose that German managers' opinions of US accounting have been shaped by the SEC's policy. It would be difficult, however, to forecast whether firms with a strong interest in attaining a listing in New York are more likely to accept US accounting or whether the SEC's uncompromising attitude may have intensified already existing reservations. Hypothesis H-A5 thus reads as follows:

> **H_{A5}:** German managers' attitudes towards Anglo-American accounting rules are influenced by their companies' interest in attaining a listing on the New York Stock Exchange.

Further, it has been pointed out that only larger, internationally-oriented German corporations are disadvantaged by the current accounting system. The vast majority of small and medium-sized German enterprises do not depend on international capital markets. Therefore, the application of Anglo-American accounting principles with their far-reaching disclosure requirements should be confined to the consolidated accounts of large corporations.[19] Although the C&L Industry Study exclusively addressed managers of large, stock-listed corporations, one may still expect that the *acceptance of Anglo-American accounting norms is positively correlated, ceteris paribus,*

> **H_{A6}:** to the size of the respective companies; and

> **H_{A7}:** to their degree of internationalization.

So far, the hypotheses have been developed on the assumption that managers' main objective is to minimize the firm's cost of capital. However, their opinions with regard to Anglo-American accounting may also be influenced by personal objectives. As was explained above, US accounting provides capital market participants with a more meaningful evaluation of management. Managers, on the other hand, may prefer not to be controlled too closely by investors. We can suppose this desire will be the stronger the more independent the current position of the managers concerned. This leads us to hypothesis H-A8:

> **H_{A8}:** German managers' resistance to the adoption of Anglo-America accounting principles is stronger, ceteris paribus, the greater the discretion they currently enjoy.

Global accounting harmonization and the possible adaptation of the German accounting system to international standards are highly complex problems and in political discussions these issues have not always been treated adequately. It cannot be precluded that some observers have been influenced by false or biased presentations of US accounting norms and practices. In order to examine this further, the following hypothesis is put forward:

> **H_{A9}:** German managers' acceptance of Anglo-American accounting norms is stronger the more intensive their knowledge and experience of US accounting in practice.

The C&L Industry Study showed that managers and professors had different opinions of the relevance of accounting data for decision-making in the capital markets in general, and of the significance of differences between national accounting systems. Managers tended to believe more strongly than professors that accounting data is of great importance to investors. On the other hand, professors were more convinced than executives that current German accounting principles represent an obstacle to the demand for German shares abroad. One must assume that the views on these two questions will also shape managers' views on accounting harmonization. Only if investors do use accounting data in their decisions and feel hampered by the present heterogeneity of accounting systems can harmonization lead to a more efficient allocation of capital.[20] This leads to the following two hypotheses: *German managers' approval of the adoption of German accounting to Anglo-American standards will be stronger, ceteris paribus,*

H_{A10}: the more important they consider accounting data to be for decision-making in the capital markets; and

H_{A11}: the more they believe HGB accounting to be a barrier to international demand for German shares.

The hypotheses on the general attitudes of German managers toward Anglo-American accounting are summarized in Table 1 (see below).

The above hypotheses on general attitudes will be tested using managers' responses in the C&L Industry Study on the relative importance they wished to see attributed to the two conflicting accounting principles of true and fair view and prudence. As explained above, US accounting is firmly based on the true-and-fair-view principle whereas German accounting traditionally gives more weight to the principle of prudence. In the C&L Industry Study, participants had to indicate on a five-point scale how the two principles should be weighed against each other in accounting (1 = prudence principle should be clearly predominant; 5 = true-and-fair-view principle should be clearly predominant).

Table 1. Hypotheses on the General Attitudes of German Managers Towards Adapting German Accounting to International Standards

Hypotheses	*Variables*	*Names of Variables*	*Expected Effect:* *
A1	Proportion of equity capital held abroad	INT-EQ	↑
A2	Interest in further international distribution of equity capital	INT-DIV	↑
A3	Raising debt in Euro-markets	INT-DEBT	↑
A4	Expected capital need	CAP-NEED	↑
A5	Interest in listing on the New York Stock Exchange	NYSE	?
A6	Size of company	SIZE	↓
A7	Degree of internationalization	INTER	↑
A8	Managerial discretion	DISC	↑
A9	Practical experience of Anglo-American accounting rules	PRAC	↑
A10	Opinion of relevance of accounting for capital markets	RELEV	↑
A11	Opinion of international demand for German shares curbed by HGB-accounting	BARR	↑

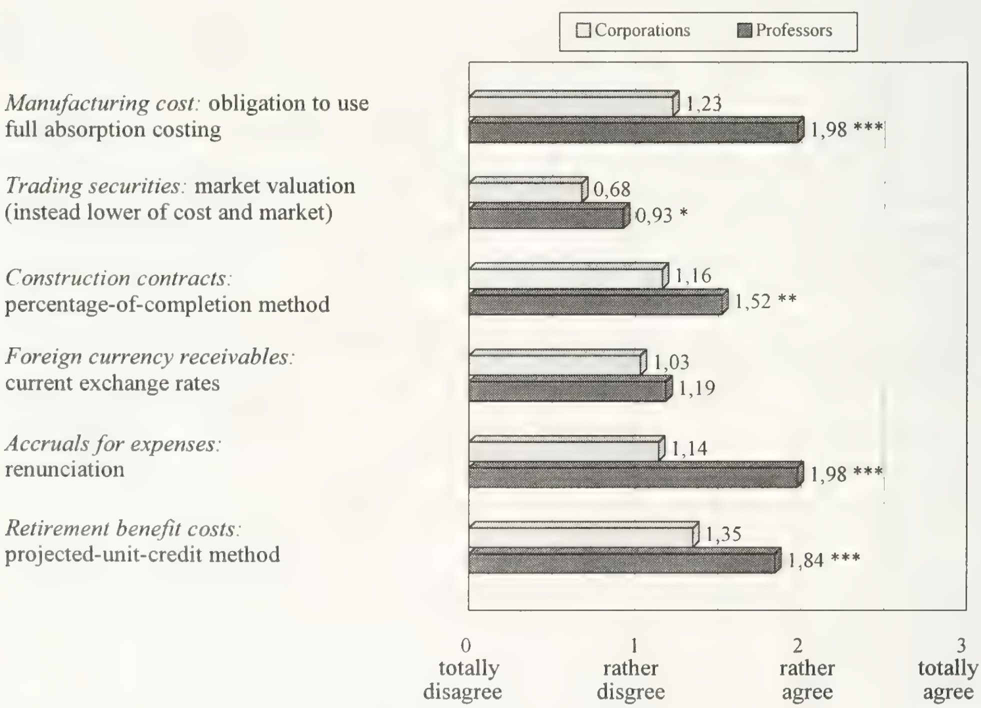
Note: * Acceptance of Anglo-American accounting concept.

With an average rating of 3.09 the managers voted for a balanced consideration of both principles. The academics, with an average rating of 3.39, prefered a somewhat stronger influence of the true-and-fair-view principle.[21]

Hypotheses on Specific US-GAAP Regulations

Apart from questions relating to accounting harmonization and Anglo-American accounting in general, the participants of the C&L Industry Study were also asked whether they would welcome the introduction of specific US regulations into German commercial law. Ratings reflecting the degree of agreement were assigned to the answers. A four-point scale was used, the lowest rating being 0 (complete disagreement), the highest 3 (complete agreement). The individual ratings were summed up in "average consent ratings".

The following hypotheses are based on the general assumption that a manager's inclination to disagree with any one of the US-GAAP regulations is stronger the greater the impact on his (or her) company of the introduction of the U.S.–GAPP norm. Balance sheet data directly related to the rules are used as explanatory variables.[22] In addition, the determinants mentioned above in connection with the general hypotheses (size of enterprise etc.) are also used in the multiple regression analyses.



Note: The asteriks denote the level of significance of the differences between the responses of managers and professors: * < 0.10; ** < 0.05; *** < 0.01.

Figure 1. Would you agree or disagree with the introduction of the following US-regulations into German accounting?

Some of the US-GAAP regulations included in the C&L Industry Study, however, do not lend themselves to an empirical analysis. This is the case for norms which cannot be related to publicly available financial accounting data.[23] Hypotheses will therefore be put forward for six US-GAAP rules only. The average consent ratings these US norms received from managers and professors in the C&L Industry Study are presented in Figure 1. Managers voted in all cases against an introduction into German commercial law, and in all questions they showed a lower rate of approval than the professors. As shown in Figure 1, with only one exception these differences in the average values of the two groups were statistically significant (two-sided *t*-test).

1. *Manufacturing cost:* German corporations are currently allowed to limit manufacturing costs to direct costs.[24] Under US-GAAP, indirect costs also have to be included (ARB 43, Ch. 4).

   H_{B1}: German managers' inclination to approve of the US obligation to use full absorption costing is, ceteris paribus, lower the bigger the volume of current assets (in relation to total assets) of their respective firms.

2. Trading Securities: According to US-GAAP, securities that have been purchased for short-term resale (trading securities) have to be valued at current market prices even if this exceeds historical costs (SFAS No. 115). Under German law, for trading securities as for any other kind of asset, only the historical cost concept is admissible.[25]

   H_{B2}: German managers' inclination to approve of the US rule of valuing trading securities at market prices is, ceteris paribus, weaker the larger the value of securities held by their firms as current assets (in relation to total assets).

3. Construction Contracts: Under US-GAAP (ARB 45), profits which arise in connection with long-term production projects are recognized according to the project's stage of completion (percentage-of-completion method). The German realization principle generally prohibits the percentage-of-completion method. Here, the completed-contract method is normally applied to long-term production projects. Profits are thus recognized totally in the period in which the project is fully completed.[26]

   H_{B3}: German managers' inclination to approve of the introduction of the percentage-of-completion method into German accounting is, ceteris paribus, lower if their companies operate in an industry affected strongly by the problem of long-term manufacturing projects (construction industry).

4. Foreign Currency Receivables: In US financial statements, foreign currency receivables and liabilities have to be valued at current exchange rates, i.e. the rates prevailing on the balance-sheet date. In German accounting, according to the prudence principle, only currency losses have to be recognized. The recognition of currency gains that have not been realized by the end of the financial year is not permitted.[27]

   H_{B4}: German managers' inclination to approve of the US obligation to value foreign currency receivables at current exchange rates is, ceteris paribus, lower the larger the value of their firms' receivables (in relation to total assets).

5. Accruals for expenses: In accordance with § 249 II HGB, accruals may be set up for expenses "which are precisely determined by type of expense and are probable or certain at the balance sheet date". Accruals of expenses are not necessarily linked to binding obligations, so that they can be set up for reasons of conservative accounting. "Provisions as estimates of future expenses or losses are used heavily [in Germany]. ... Most companies pursue policies to make provisions as large as possible because legally booked expenses directly affect the determination of taxable income" (Choi & Mueller, 1992, p. 98). Accruals for expenses are generally prohibited under US-GAAP.

H_{B5}: German managers' inclination to approve of a renunciation of the currently admissible expense accruals is, ceteris paribus, lower the larger the volume of such expense accruals (in relation to total capital) set up by their respective firms.

6. Retirement Benefit Costs: In the U.S., pension liabilities are computed by the projected-unit-credit method (SFAS 87). The settlement rate is the current capital market interest rate. In Germany, no particular method is prescribed. For tax reasons the method usually employed is the "Teilwertverfahren", a variant of the projected-benefit-valuation method. An interest rate of 6% is widely used (mandatory under tax regulations), and salary-increase projections are generally not applied.

H_{B6}: German managers' inclination to approve of the US-GAAP regulation for computing pension liabilities (projected-unit-credit method) is, ceteris paribus, lower the larger the volume of pension liabilities (in relation to total capital) built up by their respective firms.

The hypotheses relating to specific US accounting rules are summarized in Table 2.

Table 2. Hypotheses on the Attitudes of German Managers Towards Specific US-GAAP Regulations

Hypotheses	*US-GAAP regulations*	*Variable*	*Expected Effect: **
B1	Manufacturing costs: full absorption costing	CURRENT: current assets (as percentage of total assets)	↓
B2	Trading securities: market valuation	SECURITY: Current asset securities (as percentage of total assets)	↓
B3	Construction contracts: percentage-of-completion method	INDUSTRY: Construction vs. other industries	↓
B4	Foreign currency receivables: current exchange rates	RECEIVE: Receivables (as percentage of total assets)	↓
B5	Accruals for expenses: renunciation	EXPENSE: Other Accruals (as percentage of total capital)	↓
B6	Retirement benefit costs: projected-unit-credit method	RETIRE: Pension liabilities (as percentage of total capital)	↓

Notes: * Acceptance of Anglo-American accounting concept.

Data

The hypotheses deduced in the previous sections will be examined using multiple regression analysis. The dependent variables have already been described above. These are the managers' responses in the C&L Industry Study on (i) the preferred balance between the true-and-fair-view principle and the prudence principle in accounting, and (ii) the introduction of specific US-GAAP rules into German accounting.

The explanatory variables will also be operationalized in part by data gathered in the C&L Industry Study. This is true for the following variables: the share of corporate equity capital held by foreign investors (H-A1); the firms' interest in further diversifying their equity capital internationally (H-A2); the use of international debt markets (Euromarkets) (H-A3); interest in listing the firms' shares on the New York Stock Exchange (H-A5)[28]; practical experience of Anglo-American accounting principles (H-A9); managers' opinions of the relevance of accounting data for decision-making in capital markets (H-A10) and their views on the negative impact of HGB-accounting on the demand for German shares abroad (H-A11).

As we have explained above, hypotheses B1 to B7 are tested using balance-sheet data primarily (see Table 2), as well as the industry of the enterprise (H-B3).[29] In addition, the size of the companies, their expected need of capital and their degree of internationalization are also described by means of accounting data. Size is represented by the volume of revenues (H-A6); need of capital (H-A4) is approximated by the growth of revenues between 1985 and 1993; and to measure the degree of internationalization (H-A7), we have used foreign revenues as a percentage of total revenues. Managerial discretion (H-A8) is operationalized by the dispersion of the firms' equity capital: the greater the dispersion, the lower the degree of ownership-control over management.[30]

The financial-accounting data used is from the financial-accounting modul of the German Finance Database ("Deutsche Finanzdatenbank - DFDB").[31] Unless stated otherwise, all data refers to the business year 1993, i.e. to the business year completed at the time the questionnaire study was undertaken. Other data on the companies (degree of internationalization, number of employees) were collected from the annual reports of the year 1993 (for some firms: 1992/93) and have been completed by personal enquiries. Data on market values and on the dispersion of equity capital come from the weekly *Börse online* (No. 1/2 1994).

Results of the Study

Results on General Hypotheses

The results of the regression analysis on the general attitudes of German managers towards Anglo-American accounting are summarized in Table 3 (see below). For each of the explanatory variables the regression coefficients b, the standardized regression coefficients b*, showing effect strength independent of the scaling of the respective variables, and the *t*-values are given. R^2(Adj.), the coefficient of determination corrected for the number of variables and the degrees of freedom, indicates that half of the variance can be explained by the equation [R^2(Adj.) = 0.495]. The F-test confirms the hypothesis that there is a systematic relationship between the dependent and the independent variables

Table 3. The General Attitudes of German Managers Towards Anglo-american Accounting

Variables	*Coefficients (b)*	*Standardized Coefficients (b*)*	*t-Values*
Constant	-0.315		-0.249
INT-EQ	-0.179	-0.243	-1.035
INT-DIV	0.633	0.457	2.681**
INT-DEBT	-0.775	-0.491	-2.013*
CAP-NEED	-0.001	-0.024	-0.153
NYSE	-0.871	-0.372	-1.796*
SIZE	2.542E-08	0.503	2.723**
INTER	1.262	0.270	1.241
DISC	0.514	0.124	0.494
PRAC	0.165	0.147	0.622
RELEV	-0.695	-0.045	-0.201
BARR	1.068	0.745	4.150***
n	25		
R^2	0.727		
R^2 (Adj)	0.495		
F-value	3.141		
Sig F	0.027**		

Note: *: $p < 0.10$; **: $p < 0.05$; ***: $p < 0.01$.

(Sig F = 0.027). Tests for violations of the assumptions underlying regression analysis did not provide any significant results.

However, not all regression coefficients are significant. Five of the independent variables prove to contribute significantly to the explanation of the dependent variables. In one case (INT-DEBT), the sign of the coefficient is not as predicted. Thus, only four of the eleven hypotheses can be confirmed.

The results in detail are as follows: of all the explanatory variables, BARR has the strongest effect ($b^* = 0.745$; $t = 4.150$; $p = 0.001$). It will come as no surprise that managers who regard German accounting practice as a barrier to the demand for German shares in international capital markets are more inclined to accept the Anglo-American accounting concept. However, a step-wise regression showed that BARR by itself can explain only 26% of total variance in the answers; other variables also contribute significantly.[32]

SIZE ($b^* = 0.503$; $t = 2.723$; $p = 0.017$) is the second most important explanatory variable. In correspondence with hypothesis H-A8, managers of large enterprises are more willing to accept a bigger role for the true-and-fair-view principle in German accounting.[33] Hypothesis H-A2 was also confirmed: the stronger the companies' interest in a further international diversification of their equity base the greater was the managers' acceptance of Anglo-American accounting (INT-DIV: $b^* = 0.457$; $t = 2.681$; $p = 0.019$).

The fourth hypothesis to be confirmed is H-A5, according to which managers' attitudes are also influenced by their firms' interest in having their shares listed on the New York Stock Exchange. This hypothesis was postulated without predicting the direction of this effect. The regression shows that German managers whose companies are strongly interested in a listing on the NYSE have a less positive attitude towards US accounting, and a stronger preference for the traditional German prudence principle than managers in general ($b^* = -0.372$; $t = -1.796$; $p = 0.096$). As suggested above, the uncompromising stance

taken by the SEC in numerous unsuccessful negotiations with German corporations may have led to some frustration and, thereby, to a hardening of German managers' opinions.

As already mentioned, INT-DEBT (b^* = -0.491; t = -2.013; p = 0.065), the fifth statistically significant variable, comes out with the wrong sign. Contrary to hypothesis H-A3, there is a *negative* relationship between the intensity with which firms tap the international debt markets and their managers' acceptance of US accounting. This surprising result may be due to the fact that managers whose enterprises make intensive use of international debt markets feel a strong obligation to protect their creditors. They do not want therefore to give more weight to the true-and-fair-view principle in German accounting.

The prevailing international distribution of a firm's equity capital (INT-EQ) does not have a significant impact on managers' answers. We may conclude that the attitude of German managers towards US accounting is shaped not by the *existing* international dispersion of their companies' shares but by their statistically significant intention, which we have already discussed, of *further* diversifying their equity base internationally (INT-DIV).[34] The insignificance of CAP-NEED may be due to two factors. It is possible that the companies' future capital needs may not be expressed adequately by the past increases in their revenues from 1985 to 1993.[35] On the other hand, German firms may not feel restricted by lack of capital, so that international accounting standards are without relevance for their plans for investments and growth.

Turning to the variable DISC, it remains unclear whether the discretion of German executive managers is misspecified with the dispersion of their firms' equity capital, or if the assertion that managers are personally interested in maintaining the current German accounting system is wrong. Finally, the companies' degree of internationalization (INTER),[36] managers' previous knowledge and experience of US accounting principles (PRAC), as well as their perceptions of the relevance of accounting data for investment decisions, all have no significant influence on their attitude towards German and Anglo-American accounting principles.

Results on Specific Hypotheses

Each of the six hypotheses on specific US-GAAP rules (H-B1 to H-B6) is tested with one regression equation (E-B1 to E-B6). In these equations, we first use those variables which in the preceding section proved to be significant with regard to explaining managers' general attitudes towards US accounting. In addition, INTER and DISC are used as independent variables. INTER because it proved to be "almost" significant in the stepwise regression (the results of which are not shown here); DISC because it appears to be the only variable able to pick up possible agency problems in the debate on accounting harmonization. Further, as explained above, one specific variable (balance-sheet data or industry) is included in each of the equations to test for the respective hypotheses.

The results of the six regressions are summarized in Table 4. For each of the equations the standardized regression coefficients b*, t-values and, in the lower part of the table, goodness-of-fit measures are reported. Looking at the F-values, we see that five of the six regression equations can, in principle, be used to explain the answers of the managers with regard to specific US-GAAP rules. However, only three of the six hypotheses are corroborated. These are:

1. Hypothesis B1, stating that managers' acceptance of mandatory full costing will be lower the larger the volume of current assets (in relation to total assets) of their respective firms.
2. Hypothesis B3, postulating that managers operating in the construction industry, which is affected strongly by long-term manufacturing, will oppose more strongly than other managers the introduction of the percentage-of-completion method into German accounting.
3. Hypothesis B5, according to which managers' inclination to approve of a renunciation of the currently admissible expense accruals is, ceteris paribus, negatively related to the volume of expense accruals set up by their respective firms.

Table 4. The Attitude of German Managers Towards Specific US-GAAP Rules (Standardized Coefficients and *t*-Values)

Variables	*(E-B1)*	*(E-B2)*	*(E-B3)*	*(E-B4)*	*(E-B5)*	*(E-B6)*
Constant	2.567	1.118	1.227	0.621	1.440	1.144
	(2.158) **	(0.555)	(1.568)	(0.653)	(1.403)	(1.148)
INT-EQ	-0.241	-0.225	-0.165	-0.156	-0.355	-0.0890
	(-1.664)	(-1.553)	(-1.245)	(-1.088)	(-2.292)**	(-0.560)
INT-DIV	-0.422	-0.316	-0.347	-0.225	-0.138	-0.135
	(-2.345)**	(-1.872)*	(-2.234)**	(-1.388)	(-0.775)	(-0.745)
NYSE	0.124	-0.160	-0.126	-0.089	-0.105	0.095
	(0.869)	(-1.103)	(-0.965)	(-0.640)	(-0.723)	(0.605)
SIZE	0.056	-0.421	-0.221	-0.382	0.042	0.141
	(0.361)	(-2.626)**	(-1.547)	(-2.527)**	(0.267)	(0.798)
INTER	0.233	0.107	0.406	0.275	0.090	0.136
	(1.390)	(0.697)	(2.888) ***	(1.697) *	(0.570)	(0.813)
DISC	0.621	0.381	0.132	0.486	0.297	0.104
	(1.117)	(2.253) **	(0.851)	(2.984) ***	(1.739) *	(0.560)
BARR	0.284	0.106	0. 259	0.181	0.274	0.177
	(1.918) *	(0.739)	(1.913) *	(1.266)	(1.879) *	(1.105)
CURRENT	-0.342					
	(-2.070)**					
SECURITY		0.081				
		(0.555)				
INDUSTRY			-0.279			
			(-2.117)* *			
RECEIVE				-0.079		
				(-0.509)		
EXPENSE					-0.273	
					(-1.756)*	
PENSION						-0.131
						(-0.769)
n						
R^2	48	48	49	47	48	49
R^2 (Adj)	0.300	0.291	0.389	0.341	0.277	0.124
F-value	0.157	0.145	0.267	0.202	0.128	-0.051
Sig F	2.091	1.997	3.181	2.455	1.864	0.706
	0.060*	0.073*	0.007***	0.030**	0.094*	0.685

Note. *: $p < 0.10$, **: $p < 0.05$; ***: $p < 0.01$.

Hypotheses H-B2, H-B4 and H-B6 have to be rejected. In the case of H-B6, the F-value, which evaluates the validity of the regression equation in its entirety, is insignificant. It is interesting to ask why the proposed equation structure, which works rather well with all other questions, cannot be applied to the valuation of retirement benefit costs. The US norms for computing retirement benefit costs (SFAS 87, 88 and 106) differ from German practice in many respects (interest rate, assumption of expected pay rises, etc.).[37] Because of the complexity of the problem, it is very difficult to calculate the direct and the longer-term effects of switches from one procedure to the other. The effects can be different for different companies, and it is quite possible, therefore, that the volume of pension liabilities (as a percentage of total capital) does not represent a useful indicator of the degree to which German firms would be affected by an introduction of this particular US-GAAP regulation.[38]

Hypotheses H-B2 and H-B4, which could not be confirmed either, both refer to US-GAAP norms that imply departures from the German interpretation of the prudence principle. H-B2 refers to valuing trading securities at current market prices, H-B4 to the conversion of foreign currency receivables and liabilities at current exchange rates. In both cases, according to US accounting, profits not yet realized in the market place have to be recognized by the company. In the C&L Industry Study, executive managers had rejected these US norms outright; similarly, the professors had also voted decidedly against their introduction into the German accounting system (see above, Figure 1). We conclude that German accounting experts regard the realization principle as a dominating accounting principle from which departures are strictly opposed - regardless of the situation of their own company.

Further, it must be pointed out that the determination coefficients for the six equations are considerably smaller than the determination coefficient reported in the preceding section of this paper, although the sample sizes are considerably bigger. Even in the best case (E-B3), only about a quarter of the variance in the independent variable can be explained. In other words, the *general attitude* of German managers towards Anglo-American accounting, expressed in relation to a rather abstract question on accounting principles, can be explained much better with a limited number of factors than managers' attitudes towards concrete and detailed US-GAAP which are directly relevant to their companies' accounting practices. Obviously, managers' answers with regard to detailed US regulations are influenced by a multitude of firm-specific and personal factors.

The higher complexity and heterogeneity of the questions relating to specific US-GAAP norms are also reflected by the fact that in the different equations different variables contribute significantly to the explanation of the answers. BARR, i.e. the managers' opinion of the degree to which the demand for German shares abroad is curbed by current HGB-accounting, comes out significantly in three equations. It is interesting to note that BARR is insignificant in equations E-B2 and E-B4, that is, in the equations dealing with unrealized profits. It seems that changes in the German interpretation of the realization principle are rejected even by those managers who see German accounting as limiting the international demand for German shares (and who, therefore, with regard to the above discussed, more abstract question are in favour of a stronger consideration of the true-and-fair-view principle).

Other variables showing significant t-values in more than one equation are INT-DEBT, SIZE, INTER and DISC. As in the regression on managers' general attitudes, INT-DEBT has a negative sign (in all equations). As already argued above, this result may be due to

INT-DEBT being a proxy for managers' orientation towards the interests of creditors. SIZE is significant in equations E-B2 and E-B4; surprisingly, here the coefficients are negative. In other words, opposition to US norms - again those implying departures from the realization principle - is stronger the larger the size of the company.

Finally, the variable which was introduced to measure managerial discretion (DISC), has a *positive* sign in all equations and in three instances comes out significantly. It is difficult to find an explanation for this phenomenon. It appears implausible to assume that with an increasing degree of independence managers are more willing to accept the marking-to-market of trading securities and of foreign currency receivables as well as the renunciation of expense accruals. Therefore, one has to conclude that the dispersion of equity capital does not, as postulated above, represent a measure for the existence or non-existence of ownership-control over management.[39] Clearly, further research is needed to analyse empirically possible agency problems arising in the context of the reform of the German accounting system.

CONCLUSION

The starting-point of the present paper were systematic differences between the answers of corporate managers and professors in an empirical study undertaken by C&L Deutsche Revision AG in 1994/95 on accounting harmonization and a reform of the current German Commercial Code. In this study, managers had expressed themselves in all questions more positively towards current German accounting and more negatively towards US-accounting than professors. The fundamental assumption put forward in this paper is that these differences are due to differences in the economic interests of the two groups of participants. In order to test for this empirically, hypotheses were deduced with regard to the accounting-related interests of the executive managers. The idea behind these hypotheses was that managers' answers to questions in the C&L Industry Study can be explained by structural features of their respective companies (size, degree of internationalization, sheet data, etc.), and by other variables. The hypotheses were tested using multiple regression analysis.

The results of the tests showed that managers' answers can, at least to some extent, be explained by the suggested multiple regression approach. With only one exception, all regression equations came out with significant F-values. However, the answers to a rather general and abstract question (the preferred balance between the true-and-fair-view and prudence accounting principles) could be explained much better than the anwers with regard to detailed US-GAAP regulations. We must assume that the managers' attitudes towards concrete US-GAAP which are directly related to corporate accounting practice are influenced by a multitude of firm-specific and personal factors.

Managers who feared that current German accounting practice restricts the demand for German shares abroad were more inclined to accept the Anglo-American accounting concept. The size of the corporations and interest in a further international diversification of their equity capital also correlated positively with managers' attitudes. Contrary to our hypothesis, debt financing in the international (Euro-) capital market had a *negative* impact on the acceptance of Anglo-American accounting.

With regard to specific US-GAAP regulations, the hypothesis was confirmed in three cases that their acceptance by German managers is lower the greater the impact a possible

introduction would have on their respective firms. In two cases, both of which implied departures from the realization principle, no such relationship could be found. One can conclude that German managers see the realization principle as a dominating accounting principle; deviations from this principle are rejected independently of firm-specific considerations.

Finally, our results were inconclusive with regard to possible agency problems in the debate on adjusting German accounting to Anglo-American standards. German accounting undoubtedly currently offers management more scope and options than US accounting. The hypothesis postulated was that managers are less likely to renounce these possibilities the greater the discretion they currently enjoy. Using the dispersion of the corporations' equity base as a proxy for the absence of ownership control, we were not able to substantiate this hypothesis. With respect to managers' general attitudes towards Anglo-American accounting, variable DISC was insignificant, and in some of the regressions on specific US-GAAP, the coefficient, contrary to our hypothesis, was significantly positive. Further research must decide whether the relevant variable (in the context of the German capital market ?) was misspecified in our regression approach, or whether agency problems are indeed absent from the current discussion on the German accounting system.

NOTES

1. For an introduction to German accounting see Brooks & Mertin 1993; Ballwieser 1995a; Ordelheide 1995. The principles of US accounting as seen from a German perspective are summarized in Haller 1994; an introduction oriented to corporate practice is offered by Förschle et al. 1996; also see Ballwieser 1995b and the literature cited there. For accounting under International Accounting Standards, see Cairns 1995 and Coopers & Lybrand 1996. The most important differences between HGB, IAS and US-GAAP are presented in Glaum & Mandler 1996. A detailed comparison of IAS and US-GAAP has been published by the U.S. Financial Accounting Standards Board 1996.
2. The draft of the Federal Ministry of Justice published on November 27, 1996, expresses the Ministry's intention to "tolerate consolidated financial statements prepared for capital market purposes according to US-GAAP, or IAS, or according to other generally accepted rules" (BMJ 1996, p. 11; translation by the authors). However, this proposal is not undisputed; for a discussion, see Ordelheide 1996; for the position of German industry, see Corporate Accounting International 1996; the critical opinion of politicians is reported in Handelsblatt 1996.
3. However, these IAS statements are prepared within the constraints imposed by the current German Commercial Code. For a critical discussion of these "dual" financial statements, see Niehus 1995a, 1995b; Cairns 1996. Daimler Benz, on the other hand, publishes two sets of accounts. In order to satisfy the requirements of German law, HGB statements are prepared first. These are then "reconciled" to US-GAAP according to the rules for US exchange listed corporations set by the US Securities and Exchange Commision, SEC. For an analysis of the Daimler accounts, see Radebaugh et al 1995.
4. The total sample of the corporations consisted of all listed German corporations with revenues of at least DM 1 bn in 1993 which were not themselves subsidiaries of other companies; excluded from the survey were banks and insurance companies. For a more detailed outline of the methodology of the study, see C&L Deutsche Revision AG 1995, p. 48-50; Glaum & Mandler 1996, p. 7-10.
5. See C&L Deutsche Revision AG 1995; also see the summary of the results in Glaum & Mandler 1997 as well as the detailed discussion in Glaum & Mandler 1996.
6. In other words, German accounting experts agreed (almost) unanimously that single financial statements, which in Germany are relevant for dividend payments to shareholders and, more to the point, for companies' tax bills (see below), should continue to be prepared according to traditional German accounting rules.

7. For details, see Glaum & Mandler 1997.
8. While Anglo-American accounting clearly focuses on the information needs of investors, German accounting traditionally addresses itself to different stakeholder groups; see Ballwieser 1995a, p. 1401.
9. For details, see Haller 1992.
10. For a detailled discussion of accounting policy under German accounting standards, see Weber 1990.
11. Overviews over different agency-theoretical approaches are presented in Jensen & Smith 1985; Holmström & Tirole 1989.
12. See Jensen 1986. The free-cash-flow thesis, incidentally, is not new; the same argument can be found in Penrose (1959, p. 27-29): "Salaried managers have little or nothing to gain by paying out more than is necessary to keep existing shareholders from complaining in force (...). On the contrary, the managers of a firm have much more to gain if funds can be retained and reinvested in the firm. (...) we would also expect that funds that could not be profitably used would be invested instead of being used substantially to raise dividends ...."
13. It has to be pointed out here that German commercial law, which by tradition is strongly geared to creditor protection, places several restrictions on corporate payments to shareholders. According to the German public corporation act ("Aktiengesetz", AktG), dividends may only be paid out of earnings or, under certain restrictions, out of retained earings. Furthermore, the board of directors is entitled to decide to retain up to 50% of current earnings (§ 58 AktG). In addition, German corporations currently are not allowed to buy back their own shares; however, it is expected that this restriction will be abolished in a forthcoming reform of the public corporation act.
14. The above considerations show that in a system in which financial and tax accounting are closely linked, it is very difficult to distinquish between the accounting-related interests of owners and managers. From both perspectives, scope and options appear favourable. They can be used to maximize shareholder value by reducing the company's tax bill; on the other hand, they give managers discretion to pursue their own personal objectives within firms.
15. The Economist (1994, p. 89) writes pointedly: "German firms are obsessed with conservative accounting, and their standards allow managers to hide huge reserves." Similarly Oldham 1987, p. 14; Mueller et al. 1991 p. 21. Recently, these practices have also come under attack in the German literature. For instance, Kübler (1995, p. 373) writes [transl. by the authors]: "It is less than ever understandable today that management should be allowed to use accounting practices to mislead shareowners (and possibly the supervisory board) with regard to the state of the company. This can no longer be excused by dubious concepts of creditor protection." Also, see Baetge & Roß 1995, p. 40; Busse von Colbe 1995, p. 719.
16. See Moxter 1984.
17. See Statement of Financial Accounting Concepts 1, para 34.
18. The assertion of higher earnings under US-GAAP has been confirmed by Frankenberg 1993. He looks at the differences between the single financial statements of subsidiaries of US and German corporations and the financial statements these subsidiaries prepare for consolidation. Frankenberg finds that the income reported in the single financial statements of German subsidiaries of US corporations is, on average, 13% lower than the income in their US-GAAP financial statements. For the subsidiaries of German corporations in the U.S., income is higher by an average of 27% when comparing US-GAAP statements with HGB statements. Also, see Radebaugh & Gray 1997, pp. 469-475.
19. See, for instance, Küting & Hayn 1995, p. 672.
20. The first question was empirically examined for the first time by Ball & Brown 1968 and Beaver 1968. Since then, the pracital relevance of financial accounting data for decision-making in the capital markets has been confirmed in numerous studies; see, for instance the literature reviews by Lev 1989; Cho & Jung 1991; Brown 1993; Coenenberg & Haller 1993. The second question is subject of the following studies: Choi & Levich 1990; Bhushan & Lessard 1992; Choi & Mueller 1993.
21. It has to be pointed out that in comparison to the presentation in C&L Deutsche Revision AG 1995 and in Glaum & Mandler 1997, the scale of some variables has been inverted in this

study. For instance, in C&L Deutsche Revision AG 1995 the scale of the above questions was: 1 = true-and-fair-view principle should be predominant; 5 = prudence principle should be predominant. Correspondingly, different average ratings for managers and professors were reported in C&L Deutsche Revision AG 1995 and in Glaum & Mandler 1997 (2.91 and 2.61, resp.). The variables were inverted in order to facilitate a standardized argumentation and a better understanding. Apart from turning around the signs of the regression parameters, this operation does not change any of the results of the study.

22. In one case, companies' industries are used as an explanatory variable; see below, hypothesis H-B3.
23. Capitalization of self-generated intangible assets is one example for this. In Germany, self-generated intangible assets may not be included as assets in the balance sheet (§ 248, para 2 HGB). Hence, data on how different companies would be affected by an implementation of the US-GAAP norm, which allows capitalization under certain conditions (APB 17, para 24), is not available.
24. § 255, para 2 HGB, see Brooks & Mertin 1993, p. E 55; Kroneberger & Combrink 1991, p. 30.
25. "Germany is among the staunchest adherents in the world to the historical cost principle." Choi & Mueller 1992, p. 98. For details concerning the German valuation concept see Ballwieser 1995a, p. 1458-1459.
26. See Coopers & Lybrand 1993, p. G-15; Ordelheide & Pfaff 1994, p. 150.
27. See Coopers & Lybrand 1993, p. G-6.
28. We use a binary variable here. Its value is 1 for enterprises with a strong interest in a listing on the NYSE (for these firms, the decisive obstacle to a listing in the U.S. are the SEC's US-GAAP accounting requirements). For all other enterprises the value of the variable is 0.
29. Industry is also coded as a 0/1-variable. It is 1 for companies belonging to the construction industry and 0 for all other companies.
30. The literature on neo-institutionalism argues that it is inefficient for small investors to control the management of the firms in which they own shares. The costs involved in gathering and processing the necessary data are higher than the expected utility derived from such actions. Only investors who own substantial proportions of the equity capital of corporations will make an effort to supervise management. In empirical studies on the shareholder value effects of mergers & acquisitions, managerial discretion is often approximated by variables based on the dispersion of equity capital. In some studies (see, for instance, Morck & Yeung 1992), data on managerial ownership of shares is used to proxy for the existence (or non-existence) of agency-problems. Such data, however, is not available for German corporations.
31. The financial accounting data was kindly made available by Prof. Dr. H. P. Möller, Technical University Aachen.
32. Here, and in the following discussion, we implicitly assume causal relationships to exist between the explained and the explanatory variables. Of course, one has to acknowledge, however, that regression analysis can only corroborate statistical relationships (i.e. correlations), not causalities.
33. Alternative calculations which we carried out with other specifications for SIZE (total assets, number of employees and market value) produced very similar results. The explanatory power of these regressions was however somewhat smaller.
34. Incidentally, existing international diversification of shares (INT-EQ) and interest in further international diversification of the firms' equity capital (INT-DIV) are not correlated significantly.
35. Regressions run with growth of total assets, or with growth figures computed for alternative time periods (1980 or 1990 to 1993) did not come up with significant results either.
36. Calculations in which INTER was represented by the number of people employed abroad as a percentage of total number of employees were carried out as well. However, the regression coefficient for this variable, which emphasizes internationalization of production rather than of revenues, was also insignificant.
37. For details, see Klein & Peters 1987; Budde 1992.
38. Interestingly, in this question we found a significant positive correlation between PRAC, i.e. managers' practical experience with Anglo-American accounting, and their response behav-

iour. In other words, the greater managers' previous knowledge and practical experience of Anglo-American accounting, the stronger their agreement with the US norm on the valuation of pension liabilities (*Corr* = 0.269, $p = 0.033$).

39. A possible explanation for the result of the present study may be found in the peculiarities of German capital market organization. In Anglo-American capital markets, investors are likely to sell their share holdings if corporations fail to meet their performance expectations. The falling share prices may then attract "corporate raiders", i.e. investors specializing in buying up and turning around non-performing corporations (market for coprorate control). The managers of the take-over targets often lose their jobs in this process. In Anglo-American capital markets, thus, mechanisms exist which exert pressure on management to pursue efficient strategies. In contrast it is typical in the German capital market for large parts of the equity capital of German corporations to be controlled by other corporations (cross-holdings) or by banks (the ownership structure of German corporations is analysed in Deutsche Bundesbank 1997; for the influence of banks on German industrial corporations, see Baums & Fraune 1995). It has often been pointed out that one drawback of this form of capital market organization is that effective ownership control does not exist, despite ownership concentration (for a discussion, see Schmidt & Tyrell 1997; also see Dufey et al. 1997). Sales of large share holdings or changes in top management positions as a result of under-performance are rare exceptions. It is, therefore, possible that *in the context of the German capital market* the dispersion of shares does not represent an adequate measure for managerial discretion. On the contrary, large shareholdings by other corporations or by banks may lead to entrenched management. A wide dispersion of a firm's equity base, on the other hand, may mean that managers cannot expect the unconditional support of large shareholders. Thus, there may be an incentive for managers of such firms to follow more shareholder-value oriented corporate and accounting policies.

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Geographic Segment Disclosures: Theories, Findings, and Implications

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Key Words: Disaggregated information, Geographic disclosures, Segment reporting

Abstract: *This article discusses both the relevant theories and the research findings on geographic segment disclosures under SFAS 14 and relates implications of these findings to the FASB/AcSB's exposure draft. Research studies on geographic segment disclosures are divided into three broad categories: predictive ability, security pricing, and risk assessment. For each category, we provide a theoretical analysis of the importance of geographic segment information and the related empirical findings. Finally, we relate potential implications for the usefulness of geographic segment disclosures to the FASB/AcSB's exposure draft, discussing both weaknesses and improvements.*

INTRODUCTION

With the rise of the multinational company and the globalization of national economies, the importance of geographic segment information continues to increase. In 1976 the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards No. 14 (SFAS 14), *Financial Reporting for Segments of a Business Enterprise*, which first required disclosure of foreign segments by multinational companies. While users agree on the importance of geographic segment disclosures, investors, creditors, and financial statement preparers have expressed dissatisfaction with the adequacy of the current standards [Association for Investment Management and Research (AIMR), 1992; American Institute of Certified Public Accountants (AICPA), 1994]. Accounting regulators are reexamining the issue of segment disclosures due, at least in part, to the increasing importance of disaggregated information to users of financial data and the growing dissatisfaction with the current reporting requirements under SFAS 14. In a joint project with the Accounting Standards Board (AcSB) of the Canadian Institute of Chartered Accountants, the FASB issued an exposure draft in January 1996, *Reporting Disaggregated Infor-*

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mation about a Business Enterprise, that significantly changes the manner in which public companies report segment data. This project represents the first standard to be developed jointly between the FASB and a standard-setting body from another country. The International Accounting Standards Committee (IASC) is also reevaluating the relevance of current disaggregated disclosures at the global level. The IASC issued Exposure Draft 51, *Reporting Financial Information by Segment*, in December 1995. The FASB and the AcSB are working closely with the IASC to arrive at similar reporting requirements.

The requirements of the FASB/AcSB's proposed statement on disaggregated information are referred to as the management approach. Under this approach, public companies report disaggregated information according to how management organizes its major operational units internally. An operating segment is defined as a component of an enterprise (1) from which it earns revenues and incurs expenses, (2) whose operating results are regularly reviewed by the enterprise's chief operating decision maker, and (3) for which discrete financial information is available from the internal financial reporting system (FASB 1996). Possible ways of identifying and separating an enterprise into operating segments include products or services, geographic areas, legal entities, types of customers, or a combination of factors (FASB 1996). Each segment must earn revenues and incur expenses. Thus, an administrative segment would not be reported separately. The chief operating decision maker is defined as a person or group responsible for evaluating the performance of and allocating the resources over the individual components of the enterprise. The internal financial reporting system is defined to represent the system used to produce the general-purpose financial statements.

The management approach may provide more value-relevant information to financial statement users since segment disclosures will be aligned in the same manner in which management views the company. This could help users to better understand management's perspective as well as the key indicators considered useful by management. At a minimum, the disaggregated disclosures should be more consistent with the other sections of the annual report (that is, management's discussion and analysis, review of operations). The management approach should also result in lower disclosure costs since this information is already collected by management for internal reporting purposes. Since the information is more readily available to management, the proposed standard requires companies to disclose more items for each operating segment in their annual report and to provide interim reports, increasing the timeliness of segment data.

While the management approach has many positive aspects, the impact of the proposed standard as it specifically relates to geographic segment disclosures seems to hinge on how companies define their primary operating segments. For companies defining these segments by geographic area, the many benefits discussed in relation to the management approach would apply. However, many companies will define their primary operating segments along other lines, such as by products or services, legal entity, or type of customer. If companies choose operating segments other than by geographic area, the new exposure draft may not result in improved geographic disclosures; it may actually result in worse geographic segment disclosures. An expanded discussion of this segment identification issue is provided in the section on implications.

This article will discuss both the relevant theories and the research findings on geographic segment disclosures under SFAS 14 and relate implications of these findings to the FASB/AcSB's exposure draft. Mohr and Pacter (1993), summarize the literature on

industry and geographic segment disclosures through 1992. Our paper is distinct from that of Mohr and Pacter in several ways. First, we provide formal discussions of the theories that underlie the usefulness of geographic segment disclosures. We then categorize the literature findings according to related theory into one of three areas: predictive ability, security pricing, and risk assessment. Linking theory with the research findings aids in understanding the extent to which geographic segment disclosures have practically resulted in increased information to users. Second, there has been a significant amount of research on geographic segment disclosures over the past few years. More than one half of the empirical research papers referenced in this paper are not included in Pacter (1993). Finally, while the purpose of Pacter (1993) was to review the literature on segment reporting, our purpose is to relate the theories and empirical findings from the literature on geographic segment disclosures to the proposed changes to SFAS 14 declared in the FASB/AcSB's exposure draft. Will the current exposure draft provide better geographic segment information than that disclosed under SFAS 14?

The remainder of the paper examines criticisms of geographic segment disclosures under SFAS 14; theoretical analyses and existing empirical evidence on the benefits of geographic segment data for predictive ability, security pricing, and risk assessment; and implications of both the theories and the research findings under SFAS 14 to the FASB/AcSB's exposure draft.

CRITICISMS OF CURRENT GEOGRAPHIC SEGMENT DISCLOSURES

In 1976 the FASB issued SFAS 14. This statement requires companies that generate at least 10% of their revenue from foreign operations or which have at least 10% of their identifiable assets in foreign operations to disclose revenues, identifiable assets, and profits by geographic area. Similar requirements to SFAS 14 can be found in International Accounting Standard 14 (IAS 14), issued in 1981. Due to the lack of specific guidelines on geographic segment disclosures, a wide variety of disclosure practices have evolved.

Geographic segment disclosures have received considerable criticism from the academic community. Arnold, Holder, and Mann (1980), describing the wide variation in the level of geographic disaggregation, note that only 17.6% of all geographic segments were disclosed at the country level. Bavishi and Wyman (1980) find that companies used a wide array of classification schemes with a tendency toward broad classification schemes and a limited number of geographic segments. For instance, only 27% of companies disclose more than two geographic areas. Both studies conclude that regulatory guidelines for geographic segment identification in SFAS 14 are inadequate, resulting in the delivery of noncomparable geographic segment information that fail to satisfy the needs of investors and creditors. Radebaugh (1987, 80) argues that, in order to increase the usefulness of geographic information, there needs to be greater geographic disaggregation than what currently exists. Similar conclusions were reached by Gray and Radebaugh (1984), who compare the geographic segment disclosures of companies from the United States and United Kingdom, and by Tyson and Jacobs (1987), who examine geographic segment disclosures in the banking industry. Doupnik and Rolfe (1990) find that little improvement had been made in the disclosure of geographic segment data nearly one decade after the inception of SFAS 14. They report that only 34% of the companies disclose more than two geographic areas.

The financial community also criticizes disclosures of geographic segment data. The inadequacy of current segment disclosure practices for market participants is argued, rather strongly, in a position paper on corporate financial reporting published by the Association for Investment Management and Research (AIMR, 1992), representing 23,000 professional financial analysts worldwide. This position paper lists current segment reporting practices as the most repeated shortcoming of financial reporting and disclosure by U.S. companies. The AICPA organized a Special Committee on Financial Reporting in 1994 to investigate the information needs of investors and creditors. The findings of the Committee revealed that investors highly value segment information. However, current disclosure practices generally do not provide adequate information for assessing a company's future cash flows (AICPA 1994). Thus, both the academic and financial communities question the usefulness of geographic segment data as currently reported under SFAS 14.

THEORETICAL ANALYSES AND EXISTING EMPIRICAL EVIDENCE

Research studies on geographic segment disclosures are divided into three categories: predictive ability, security pricing, and risk assessment. For each category, we provide a theoretical analysis of the importance of geographic segment data and a discussion of the empirical findings that have implications for the current changes that regulators propose. The three categories enhance the organization and discussion of geographic segment disclosures.

Geographic Segment Disclosures and Predictive Ability

Fineness Theorem

The fineness theorem is mathematically developed in the information economics literature. According to the fineness theorem, information structure X is said to be as fine as or finer than information structure Y if X is a subpartition of Y. In other words, if every subset of X is contained in a subset of Y, then the information provided in X is at least as fine as the information provided in Y. The fineness theorem states that the information in X is preferred to the information in Y as long as every signal from X is fully contained in a signal from Y (Demski, 1977). In simple terms, a finer information structure will result in greater benefits to the decision maker. These benefits can be shown to hold theoretically under all forms of probability and payoff functions.

The fineness theorem applied to the area of geographic segment data suggests that the disclosure of disaggregated geographic data is preferable to the disclosure of consolidated data alone. Since geographic segments differ on such things as profitability, risk, growth opportunities, and political stability, investors have a need for segmented financial data, a finer source of information, in addition to consolidated financial data. The fineness theorem indicates that this finer information will result in more valuable information to users.

Under certain conditions, the fineness theorem may not hold in practice. If segment data are either measured or reported with error, decisions using the finer data need not be as accurate as decisions using consolidated data alone (Silhan, 1982). Decisions using geographic segment data may compound the measurement or reporting error to a greater

extent than decisions based on consolidated data. Balakrishnan (1990) discuss a formal mathematical proof demonstrating that the use of disaggregated geographic information can result in less accurate forecasts.

Related Literature

Using a sample of 89 U.S. multinational companies over the period from 1979 to 1985, Balakrishnan et al. (1990) examine whether geographic segment revenues and earnings provide more accurate predictions of future consolidated revenues and earnings, respectively, than do consolidated data. To control for errors in forecasting Gross National Product (GNP) and exchange rates, the authors first assume perfect foresight using the actual year-ahead changes in these economic factors. The perfect foresight assumption is then relaxed so that forecasts of these variables can be examined. The results are not conclusive. In the case of perfect foresight, the segment model outperforms the consolidated model for both revenues and earnings. However, the results using forecasts of GNP and exchange rates find no significant differences in the predictive ability of the segment and consolidated forecast models. Balakrishnan et al. attribute the insignificant results when using forecasts of GNP and exchange rates to the lack of detailed geographic segment disclosures (i.e., insufficient disaggregation), which reduce the ability to utilize certain country-specific macroeconomic forecast variables.

Further evidence that geographic segment disclosures have improved predictive ability is available from a variety of perspectives. Roberts (1989) conducted a study similar to Balakrishnan et al. (1990), based on a sample of multinationals in the United Kingdom, finding that the segment-based models generally outperform the consolidated models. However, Roberts finds that segment earnings models do not significantly outperform segment models using segment sales and consolidated earnings, raising questions about the potential benefit of geographic segment earnings disclosures. Three additional studies (1) investigating the associations between unexpected earnings and unexpected security price revisions before and after implementation of SFAS 14 (Senteney and Bazaz, 1992), (2) using Box-Jenkins time series forecast models to evaluate the differential forecast accuracy of segment versus consolidated models (Ahadiat, 1993), and (3) examining whether financial analysts' earnings forecasts improved after implementation of SFAS 14 (Nichols, Tunnell, & Seipel, 1995), all find evidence to support the fineness theorem's prediction that geographic segment disclosures improve the predictive ability of earnings.

Herrmann (1996) examines whether geographic information disclosed at an increasingly disaggregated level (i.e., consolidated vs. continent vs. country) results in increased predictive ability of operating results. Fifty-five multinational companies were simulated by combining the annual operating results of six individual companies, one from each of six countries, in order to compare the forecasting accuracy of data disclosed at the country, continent, and consolidated levels. The study finds that, consistent with the fineness theorem, the accuracy of forecasts increases as sales and gross profit are disclosed at a more disaggregated geographic level.

GEOGRAPHIC SEGMENT DISCLOSURES AND SECURITY PRICING

Earnings Capitalization Model

Derived from the multiperiod Capital Asset Pricing Model, the earnings capitalization model shows that one dollar of earnings is capitalized by the market as one dollar plus the present value of one dollar in each period for an infinite number of future periods (Kormendi & Lipe, 1987; Kothari & Sloan, 1992):

$$P_{i,t} = (1 + 1 / r_i)\, A_{i,t}$$

where, $P_{i,t}$ is the value of company i in period t, r_i is the discount risk factor for company i, and $A_{i,t}$ is accounting earnings for company i in period t. The value of the company is inversely related to the risk factor. As the risk factor for earnings increases, the value of the company declines. Another important assumption of the model is that earnings follow a random walk process (i.e., there is no expected growth in earnings). If earnings are expected to grow (decline), then current earnings would be valued more (less) by the market.

Since geographic segments differ in their risk and growth expectations, one would expect the market to value geographic segment earnings accordingly. The earnings of high-risk (low-growth) geographic segments should be valued lower than the earnings of low-risk (high-growth) geographic segments. Disclosure of geographic segment earnings should allow investors to value the company more precisely than disclosure of consolidated earnings alone. If only consolidated earnings are disclosed, it would not be possible for market participants to value the company according to the risk and growth characteristics of its geographic segments. However, if geographic segment earnings are useful, we would expect the market to value geographic segment earnings differently. Also, to the extent that geographic segment revenues and assets provide an indication of the risk and growth potential of the respective geographic segment earnings, then such disclosures should also affect security prices.

Related Literature

Boatsman, Behn, and Patz (1993) examine the relationship between unexpected security returns and unexpected geographic segment earnings using a 16-day window surrounding the release of the annual report. Evidence that geographic segment earnings are used to price securities is found if the market reaction to unexpected geographic segment earnings varies across geographic segments. The study finds a significant association only in situations in which unexpected geographic segment earnings are very large. With the exception of these outliers, geographic segment earnings provided little or no additional information to the market.

Conover, Conover and Karafiath (1994) observe the equity market performance of U.S. multinationals surrounding the closure of the Mexican peso foreign exchange market on August 12, 1982. The closure caused the risk of Mexican operations to greatly increase and should therefore have caused a reduction in security prices for companies with operations in Mexico. The authors find that companies disclosing a specific "Mexico" geographic segment experienced a significant drop in share prices following the crisis.

Companies consolidating Mexican affiliates results with other geographic regions, companies using the equity method of accounting for Mexico affiliates, and companies with export sales to Mexico also experienced a decline in share prices. The authors conclude that investors used geographic segment information to determine risk characteristics and revalued shares accordingly.

Thomas (1996) investigates the association between security returns and geographic segment earnings over long return intervals varying from one to five years. When returns and geographic segment earnings are measured over at least a three-year period, the market differentially values geographic segment earnings consistent with the segment's risk and growth characteristics. However, when returns and geographic segment earnings are measured over one- or two-year intervals, no evidence is found that the market valued geographic segment earnings differently.

Geographic segment disclosures under current regulations do not appear to be a timely source of information in the securities markets. There is little or no association between current returns and current geographic segment earnings (Boatsman et al., 1993; Thomas, 1996). However, when returns and geographic segment earnings are measured over long windows (Thomas 1996), the market differentially values geographic segment earnings consistent with the predictions of the earnings capitalization model. Only in the case of an extreme crisis such as the closure of the Mexican peso foreign exchange market (Conover et al., 1994) do current geographic segment data appear to be used.

Geographic Segment Disclosures and Risk Assessment

Signaling and Portfolio Theory

Signaling refers to the way in which market agents perceive disclosure and nondisclosure of information. According to signaling theory, managers have an incentive to disclose (signal) good news and hide bad news. In the context of geographic segment disclosures, suppose a company has foreign operations in Country A and Country B. The risk of Country A is 10 and the risk of Country B is 20. Country B is more risky than Country A. If the company is equally involved in each country, then a simple assessment of risk of the company's foreign operations may be 15. If the company discloses its foreign operations in a combined segment, investors are uncertain as to what extent the company is involved in Country A versus Country B. Market agents are forced to assess the risk of the company based on the signal sent by disclosing only the combined segment data. Investors may suspect that management is intentionally disclosing operations in a combined segment in an attempt to conceal the extent of its operations in a high-risk country, resulting in the overall assessment of risk to be greater than 15. By disaggregating the foreign operations into a Country A segment and a Country B segment, the company can reduce its overall perceived risk. Greater disaggregation of geographic segments should decrease investor uncertainty and should, in most cases, decrease investors' overall assessment of risk. An exception is a situation in which finer disaggregation results in the disclosure of an especially high-risk segment, increasing investors' overall risk assessment.

A related theory explaining the link between geographic segment disclosures and risk assessment is derived from portfolio theory. Portfolio theory suggests that investors can reduce risk by diversifying their investment portfolio. Diversification reduces risk by

eliminating the unsystematic risk of the assets in the portfolio. The benefits of portfolio diversification increase as the correlations among the assets' returns decline. A single company may be thought of as a portfolio of assets with its geographic segments representing the different assets. As such, the expected return of the company (i.e., the portfolio) is simply the weighted average expected return of each segment where the weights are the proportions of returns generated from each geographic area. If the returns of each segment are less than perfectly positively correlated, then the overall risk level of the company is reduced through diversification. In the absence of sufficiently fine levels of disaggregation, investors may be unable to determine the extent to which the returns of the individual geographic segments correlate. If only consolidated data are disclosed, then it will be difficult for investors to determine the extent to which the company's diversification into different geographic areas results in portfolio diversification benefits. As the level of disaggregation increases, the diversification benefits become more apparent to investors and should, in general, decrease the overall perceived risk of the company.

Related Literature

Doupnik and Rolfe (1990) examine the effect of geographic segment data on risk assessment using a field experiment. Financial analysts were asked to assess the risk of investing in a U.S. multinational company based on several different geographic segment disclosure schemes. The cases varied only by the level of geographic segment disaggregation by the multinational company. Consistent with the expectations of signaling theory, the study finds that individuals' assessments of risk generally decline as the level of disaggregation increases. The exception is in cases where greater disaggregation leads to the disclosure of a high-risk segment (e.g., the Middle East), whereby perceived risk actually increased. The authors conclude that disaggregation alone does not ensure useful information. Geographic segment data provide relevant information in cases in which geographic areas of different risk are separately disclosed. The authors suggest that companies should not only report geographic segments on the basis of materiality but also according to differential investment risk.

Senteney (1991) estimates the market model for each of 121 U.S. multinational companies for the five-year period before and the five-year period after implementation of SFAS 14. If geographic segment disclosures are useful to investors, then such disclosures should reduce investor uncertainty and prompt an informationally induced shift in the parameters of the market model. The study finds a significant change in the market model parameters after implementation of SFAS 14. Both the intercept and slope coefficients for the market model decrease for the majority of companies. Consistent with the expectations of portfolio theory, risk appears to decrease after the initial disclosure of geographic segment information. This finding is further substantiated for U.K. companies in Prodhan (1986) and for U.S. companies in Prodhan and Harris (1989) in the examination of beta risk before and after the initial disclosure of geographic segment information.

IMPLICATIONS TO THE FASB/ACSB'S EXPOSURE DRAFT

The previous sections demonstrate that while there is ample theoretical support for the usefulness of geographic segment disclosures, empirical research provides only some evi-

dence of this usefulness. Gaps exist between theory and practice as to whether the disclosure of geographic segment information results in greater usefulness. The proposed statement by the FASB/AcSB is intended to increase the usefulness of segment disclosures by more closely aligning the benefits predicted by theory with practice. The issue then is whether the proposed statement will improve the information disclosed by geographic area.

Segment Definition

The most serious problem of current segment reporting relates to segment definition. Under SFAS 14, factors to be considered in defining a geographic segment include proximity, economic affinity, similarities in business environment, and the interrelationships of the company's operations in various countries. Considerable flexibility is given in defining geographic segments under SFAS 14, resulting in a wide variation in reporting practices. Factors to be considered in the United Kingdom under SSAP 25 include expansionist or restrictive economic climates, stable or unstable political regimes, exchange control regulations, and exchange rate fluctuations. The United Kingdom has also experienced a wide range of geographic disclosure practices, often resulting in inconsistencies between geographic segment data and other disclosures included in the annual report (Emmanuel and Gray, 1977; Rennie and Emmanuel, 1992).

There are two important issues related to segment definition under the FASB/AcSB's proposed statement: the basis for segmentation and the level of disaggregation. The first issue deals with how management organizes the business. Since most companies are organized by industry, geographic data will be disclosed for the majority of companies only as supplemental information. The second issue deals with how finely management reports their geographic segments.

Basis for Segmentation

The FASB/AcSB's proposed statement requires companies to report disaggregated information consistent with how management organizes its major operational units internally. Companies will no longer be required to report both industry and geographic disclosures at a similar level of rigor as currently required by SFAS 14. Companies defining operating segments on the basis of geographic area will disclose geographic information for revenues, interest revenue and expense, research and development costs, depreciation, depletion, amortization, unusual items, equity in the net income of investees, income taxes, extraordinary items, other noncash items, assets, liabilities, investment in equity method investees, capital expenditures, and reconciliations of revenues, profits, assets, and liabilities by segment to amounts reported in the consolidated financial statements. In fact, enough information is to be provided to allow users to approximate cash flow information at the segment level. In contrast, companies that define their operating segments on a basis other than geography (e.g., industry) will be required to report only limited supplemental geographic disclosures of revenues, assets, and capital expenditures for each country in which operations are deemed material (FASB, 1996). As Ernst & Young explain in their comment letter to the FASB, most companies are organized based

on products and services only. Therefore, most companies will choose industry lines and not geographic areas as their operating segments, which will reduce greatly the quality of geographic disclosures.

Currently, SFAS 14 requires only revenues, assets, and earnings to be reported by geographic segment. Therefore, for companies defining their primary operating segments on a basis other than geographic area, the only change in items disclosed by geographic area under the proposed statement will be the disclosure of capital expenditures instead of earnings. Research studies separately investigating the adequacy of current geographic segment earnings find limited evidence of their usefulness (Balakrishnan et al., 1990; Boatsman et al., 1993; Herrmann, 1996). Additional studies find that the usefulness of geographic segment earnings is evident only under certain conditions or in particular circumstances (Ahadiat, 1993; Nichols et al., 1995; Thomas, 1996). The usefulness of geographic segment earnings is hindered by such things as transfer pricing policies, common cost allocation methods, and management manipulation, as well as inconsistency in the level of geographic segment earnings disclosed (e.g., operating earnings, pre-tax earnings, and net income). Based on the research findings, the exclusion of geographic segment earnings may be warranted.

Level of Disaggregation

The proposed statement requires companies to report supplemental geographic information for each country in which operations are deemed *material* (FASB, 1996). The information is to be reported in a matrix format (i.e., by material country for each operating segment). An illustrative example of this format is presented in paragraph 117 of the exposure draft. More than fifteen years ago, Bavishi and Wyman (1980) recommended that business segment and geographic disclosures be integrated into a matrix format. The matrix format provides significantly more information than is provided by disclosing operating segments and geographic areas separately.

However, the proposed standard eliminates materiality guidelines for defining a segment such as the 10% rule under SFAS 14. Materiality is left to management's judgment based on the specific circumstances (FASB, 1996). For supplemental geographic disclosures, the operations of all other immaterial countries would be aggregated into an "other foreign" category (FASB, 1996). Reporting only material countries will likely reduce the number of reported geographic segments and increase the level of aggregation. Indeed, based on comments made in the basis for conclusions of the exposure draft, this appears to be the stated intent. The exposure draft states that reporting information by individual countries will reduce the burden on preparers of financial statements since operating segments of most companies are unlikely to have material operations in more than a few individual countries and perhaps only in the enterprise's country of domicile (FASB, 1996). As written, the proposed statement eliminates disclosures of regional (e.g., Europe or Central America) or combined (e.g., France/Germany or Pacific/Australia) geographic areas. When faced with extremes (country level data in a matrix format vs. other foreign), managers are likely to disclose supplemental geographic information in the other foreign category and not by country to avoid releasing vital competitive information and to minimize the additional preparation costs necessary to provide the supplemental country level

disclosures. For most companies geographic segments will be disclosed at a more aggregated level. As the theoretical analyses and research studies indicate, greater aggregation limits the useful information for predictive ability, security pricing, and risk assessment.

Furthermore, restricting geographic disclosure only to material countries may reduce disclosures of differential investment risk and in turn the usefulness of geographic information. Doupnik and Rolfe (1990) demonstrate that the usefulness of geographic segment information is positively related to the degree of differential investment risk across segments. Restricting disclosure to material countries may bias supplemental geographic disclosures toward operations in major industrialized countries and against operations in developing or undeveloped countries since operations, measured quantitatively, are more likely to be material in major industrialized countries. However, differential risk characteristics are far greater when operations in developing or undeveloped countries are disclosed in addition to operations in fully industrialized countries. Qualitative as well as quantitative materiality considerations need to be made so that disclosures of operations in countries with divergent risk characteristics (i.e., developing or undeveloped countries) are not excluded due to the relatively smaller, but much riskier, operations in these countries.

Country Level Disclosures

There is some question as to whether the disclosure of country level information, as proposed in the FASB/AcSB's exposure draft, is preferable to the broader geographic areas currently disclosed. In support of country level data, the fineness theorem clearly indicates that greater disaggregation is preferable. Herrmann (1996) finds that forecast accuracy is significantly greater at the country level in comparison to the continent level. Balakrishnan et al. (1990) point out the need for more detailed geographic disclosure in order to better utilize certain country-specific macroeconomic variables. Economic variables useful in forecasting, pricing securities, and assessing risk such as inflation, interest rates, GNP, and foreign currency exchange rates are all provided at the country level. Even political and legal risks (i.e., warfare, tariffs, taxes) are most often summarized by country, creating a need for geographic disclosures at this same level.

However, numerous valid criticisms to providing segment data at the country level exist. First, the idea goes against the grain of globalization. In a comment letter to the FASB, Hewlett-Packard states, "We have managed on the basis of product lines. Our investments in these product lines are global; we have worked hard to eliminate country-specific thinking among our managers and partners; and we don't collect country-based product line data because it would be at cross-purposes with how we manage our businesses." Second, due to resource sharing schemes, country level information can be misleading and at variance with the organizational structure of the firm. Third, comparability across firms is hindered because selected significant countries would differ more from company to company than regional segments, as commonly provided under current segment reporting practice. Finally, country level data increases the likelihood of disclosing information with adverse economic and/or political consequences. Information at the country level has greater potential for use by domestic and foreign competitors, foreign governments, labor unions, lobby groups, and so on, in a manner harmful to the company.

Accountability vs. Competitive Disadvantage

Segment reporting should provide an accountability for management while not providing unnecessary harm to the firm. Regulations need to be specific enough to prevent management from hiding relevant information that it does not want published. For example, management may not wish to reveal a specific geographic segment that is generating losses for fear of criticism for managerial inefficiency (Hendriksen, 1982). Regulations also need to be flexible enough to allow firms to exclude segment information clearly leading to competitive harm. The most common concern among the 116 manufacturing firms responding to the FASB/AcSB's exposure draft relates to the potential for competitive disadvantage from disclosing certain segment information; 77 percent of all manufacturing firm responses raised this concern, far outdistancing the second most common concern of segment definition.

By reporting operating segments consistent with how management evaluates performance and allocates resources, the proposed standard strengthens the disclosure of management accountability while increasing the likelihood of competitive costs. Segment disclosures are to be aligned with management's perspective, holding management accountable for their actions. However, as pointed out by the strong negative reaction of the comment letters, the management approach could potentially lead to greater competitive costs. One possible solution is to allow the exclusion of segment disclosures in situations in which competitive disadvantage may result as currently allowed in the U.K. (SSAP, 25). However, even this exclusion has the potential to serve as a cover for managerial inefficiency. Weak individual segment performance might be excluded under the disguise of competitive disadvantage.

Geographic Segments as Profit Centers

In order to qualify for primary operating or supplemental geographic disclosure, the segment must *both* earn revenues and incur expenses. This requirement that each geographic segment must represent a profit center excludes the reporting of cost centers from segment disclosures. For instance, a research and development laboratory strategically located in a specific geographic region to take advantage of valuable human and technological resources would be excluded from segment disclosures under the proposed standard since this research facility does not directly earn revenue. Administrative segments, such as corporate headquarters, would also be excluded under this definition. Inconsistencies may result whereby one company allocates general and administrative costs to operating segments while another company excludes general and administrative costs from the disclosure of operating segments, hindering comparability across firms.

Timeliness

The empirical research finds geographic segment disclosures to be useful, but not a very timely source of information (Boatsman et al., 1993; Thomas, 1996). The proposed statement requires interim disclosures of information for its primary operating segments in order to improve the timeliness of segment information. However, interim disclosures are not

required for the disclosure of supplemental geographic information. For the majority of companies defining their primary operating segments on a basis other than geographic area, supplemental geographic segment disclosures will not be provided on a timely basis. Thus, for many firms the timeliness of geographic segment information will not be improved.

CONCLUSION

The effect of the FASB's proposed statement on the quality of geographic segment disclosures will depend greatly on how companies define their operating segments. For companies defining operating segments on the basis of geographic area, the proposed statement should significantly increase the quality of geographic information disclosed. For companies defining operating segments on some other basis, the proposed statement may not result in improved geographic disclosures. In addition, geographic information is likely to be reported at a highly aggregated level, rendering it less useful. The country level disclosures that are presented are likely to be biased in favor of disclosures in highly industrialized countries and against disclosures in developing or undeveloped countries, representing more divergent risk characteristics. Since most companies will define their operating segments on a basis other than geographic area, the proposed statement will not improve disclosures of geographic information and may actually worsen such disclosures. Without changes to the requirements for supplemental geographic disclosures, geographic data may cease to be a major source of information for financial statement users.

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An Investigation of The Ethical Decision-Making Process Across Varying Cultures

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Key Words: Ethical decision making, Culture, International accounting

Abstract: *This study examines the influence of dimensions of culture on the ethical decision process. Do various cultures perceive the ethical dilemma differently? Do these cultures prefer different types of actions? Do these cultures perceive the role of the accountant differently in response to the consequences? This study has a broad scope of countries (nine), which allows richer contrasts of cultural dimensions. The three aspects of the ethical decision-making process (perceived dilemma, perceived actions, and perceived consequences) are analyzed rather than asking the respondent to make an ethical judgment. Accounting systems adopted by countries reflect culture, profession, and industry. The responses from countries with different accounting systems is analyzed. The findings of this study will provide practitioners as well as academics insight into the harmonization of accounting standards. Research about ethical problems may help accountants anticipate and predict problems that might occur and identify referent countries for solutions to these problems. These findings will also be useful to auditors and accountants designing training programs for multicountry practices.*

The topic of business ethics has been of significant interest in accounting over the last decade. Ethics is the study of morality and standards of conduct (see Donaldson and Werhane, 1993). Deciding between ethical and unethical conduct is not easy when different values are in conflict. As Hunt and Vitell (1986) suggest, ethical decision making is deeply rooted in cultural values—the convictions that people have regarding right and wrong, good or bad, important or unimportant. Universalists (De George, 1993) hold that there are some general moral norms, such as killing, untruthfulness, and theft, that are basic to all cultures, but how these norms are applied varies. Differences arise from conflicting judgments regarding the ethics of specific practices. One of the purposes of this study is to expand the investigation of the influence of cultural environment on the ethical decision-making process.

Questions on the role and influence of culture on ethical decision making of auditors (see Cohen, Pant, & Sharp, 1995; Gul & Tsui, 1993) and management accountants

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(Schultz, Johnson, Morris, & Dymes, 1993) have received attention in the accounting literature. Though international in focus, many of these studies compare closely clustered countries such as the United States, Canada, Australia, and the European countries. More recently, the study by Cohen, Pant, and Sharp (1995) included Latin America. This study attempts to broaden the scope with data from nine countries: People's Republic of China (CHI), Ukraine (UKR), and Republic of Moldova (MOL) are former communist countries; the Philippines (PHI) and Thailand (THA) are in the Pacific Rim; Germany (GER) is European; and the United States (USA), Canada (CAN), and Australia (AUS) are all Anglo-American. This selection of countries allows for broader contrasts on the basis of cultural dimensions.

Our research goes beyond previous work by examining the effect of culture on moral choice. This research examines the effect of culture on three aspects of the ethical decision-making model proposed by Hunt and Vitell (1986): perceptions of the ethical dilemma, perceptions of alternative actions, and perceptions of the importance of consequences of choice. Instead of analyzing whether one response is relatively more moral than another response, this research focuses on a different set of questions:

1. Do various cultures perceive the ethical dilemma differently?
2. Do these cultures prefer different types of actions?
3. Do these cultures perceive the role of the accountant differently in response to the consequences?

This study moves beyond the request for a judgment and examines the core phases of the ethical decision-making process to determine where differences in cultural dimensions manifest themselves most strongly. This study also reviews several existing models that examine the cultural dimensions important to an ethical decision. For instance, many accounting studies examine cultural differences using only the Hofstede (1980) model. Other models, such as those by Hall (1976, 1991) and Kluckholm and Strodtbeck (1961), may yield different insights or they may corroborate the findings.

In addition, an alternative perspective is analyzed. Belkaoui and Picur (1991) have shown that perceptions of accounting concepts vary with culture and Gray (1993) hypothesized that the accounting standards adopted by countries reflect culture. While the accounting system implemented represents the professional environment and the accounting industry, perhaps the accounting model adopted by the country can be used as a composite of the cultural, professional, and industrial environments. The current study clusters countries by the type of accounting system implemented, testing the difference in responses to ethical decision making in countries using different accounting models. The accounting system classification may yield the same results as the cultural models. The second purpose of this research is to examine the use of classifications of accounting systems as a composite of the cultural, professional, and industrial environments. This could be useful in cross-cultural research.

This study extends the research of comparing ethical judgments by examining the phases of the ethical decision-making process. This research also extends cross-cultural research by comparing the results of several models. The findings of this study will provide practitioners as well as academics insight into issues concerning the harmonization of

accounting standards. Harmonization might suggest a flexible, culturally sensitive approach to standard setting as opposed to the implementation of rigid uniform standards (see Nobes & Parker, 1995; Radebaugh & Gray, 1993). Research about ethical problems may help accountants anticipate and predict problems that might occur and identify referent countries for solutions to these problems. Cross-cultural accounting research will also be helpful to accountants and auditors designing training programs or operating multi-country practices.

The paper includes a literature review of ethical decision making in Accounting; a discussion of models of ethical decision making; models of cultural influence; hypotheses tested; research design, results, discussion, and implications; and a discussion of the study's limitations and areas for future research.

LITERATURE REVIEW OF ETHICAL DECISION MAKING IN ACCOUNTING

Rest (1986) developed both a cognitive model for individual ethical decision making and behavior, and the defining issues test (DIT) for evaluating ethical judgments. Rest described the ethical decision-making process as recognizing issues, making a judgment, establishing moral intent, and taking moral action. Perception, judgment, and action are the critical parts of the decision-making process. This model focuses on the cognitive processing of decisions but ignores the context of the individual. Many studies of ethics in accounting, i.e. Ponemon and Glazer (1990), Ponemon (1992), and Kite, Louwers, and Radtke (1996) have relied on Rest's model and used the DIT.

Noreen (1988) examined the economics of ethics from an agency theory perspective, finding that opportunistic behavior can inhibit exchange mechanisms through a lack of trust. This model focuses on the interactions of individuals and agency variables, such as risk and opportunism, but does not incorporate broader contextual variables and a process for making judgments.

Lampe and Finn (1992) compared two models of auditor ethical decision making, a code-implied model and a five-factor cognitive model, were compared. Lampe and Finn suggest that when professional organizations adopt codes of ethics, these organizations encourage a code-implied model of ethical decision making. The auditor evaluates ethical dilemmas against the elements of the code and makes a decision based on avoiding possible violation. Lampe and Finn also developed a five-factor cognitive model by looking to the management literature and incorporating individual and situational moderators (see Trevino, 1986), as well as issue-dependent conditions (Jones, 1991), to Rest's model. This model begins with recognizing the ethical situation, evaluating the consequences, examining alternative values, and making a final decision. This remains a cognitive model but more clearly recognizes the importance of evaluating both the consequences and the moral values before coming to a decision. In a test comparing the two models, Lampe and Finn found it was the five-factor model, rather than the conservative code-implied model that better reflected the decisions made.

In 1992 Flory, Phillips, Reidenbach, and Robin (1992) developed a multidimensional ethics measure capturing the dimensions of moral equity, cultural relativism, and contractual dimension. This multidimensional scale incorporates the cultural as well as professional influence on moral judgments. Together, the three components explain a sub-

stantial amount of the decision dynamics in ethical judgments. The R^2 in the four dilemmas ranged from .59 to .76. This study is important because instead of having to choose between professional, moral, and cultural factors, the researcher develops a scale that incorporates all of these influences.

Schweikart (1992) presented a model of the ethical decision-making process that illustrates the importance of broader contextual factors such as, national sociocultural values, political-legal environments, level of economic development, and level of education, as well as more specific contextual factors such as, government influence, laws and codes of ethics, public needs, and company and firm culture. There are two levels of contextual variables surrounding the individual accountant in this model, introducing a variety of contextual factors that influence ethical decision making. The two levels of contextual factors illustrate the rich variety of contingency effects on ethical decisions of accountants but is difficult to test and lacks attention to the individual processes of ethical decision making. Hunt and Vitell (1986) developed a more balanced model, which incorporates the rich contextual environment (cultural, professional, industry, and organizational) as well as the individual cognitive processes (perception, norms, and evaluation). It is described more fully in the next section.

In addition to the modeling of the ethical decision-making process of accountants, there have been many studies that have examined the contextual factors. Not surprisingly, there have been several descriptive studies (Swiekart, 1992; Cohen, Pant, & Sharp, 1993; Fechner & Kilgore, 1994) that identify the role of culture as a moderator of ethical decision making. Other researchers have tested hypotheses about cultural influences (Belkaoui & Picur, 1991; Cohen, Pant, & Sharp, 1995; Bagranoff, Houghton, & Hronsky, 1994; MacArthur, 1996). These empirical tests of auditors in an international accounting setting show support for the hypothesis of cultural influence in ethical decisions.

There have been many studies about the impact of professional education on the level of moral reasoning (Poneman & Glazer, 1990; Weber & Green, 1991; Heitbeitel & Jones, 1992; Frank, Sarhan, & Fisher, 1990). Empirical tests showed support for professional education improving moral reasoning in accountants. Jones and Heitbeitel (1995) and Jeffrey and Wetherholt (1996) found that work environment socialization and pressure affected the moral reasoning of accountants. Frank, Sarhan, and Fisher (1990) found a gap between the ethical situations discussed in academia and those in the workplace and called for a better partnership. Appendix A provides a more detailed review of studies concerning the cultural environment, professional environment, and organizational environment. In the accounting profession, the industry environment and the professional environment are the same.

A MODEL OF ETHICAL DECISION MAKING

Ethics is the study of morality and conduct in the face of a dilemma. The business environment, which focuses on profit making and efficiency, gives rise to ethical dilemmas when actions taken in pursuit of these goals are not supportive of personal or societal values (Frank, Sarhan, & Fisher 1990). It has been said that "ethical problems in business are as old as business itself" (Donaldson & Werhane, 1993). The study of ethical business behavior in the international context is important because ethical behavior in one country

is sometimes viewed as unethical behavior in other countries (Ciulla, 1991). For example, gift giving may be perceived as an accepted custom in some cultures but may be perceived as an unethical bribe in others (Tsalikis & Nwachukwu, 1991). Cultural factors may play a key role in these perceptual differences.

Hunt and Vitell introduced a model for ethical decision making that identifies four factors in the environment (cultural, professional, industry, and organizational) (see Figure 1). These factors influence the perceived dilemma, actions, and consequences. Perceptions are evaluated in terms of ethical norms or moral judgments to make a decision about the ethical dilemma. Within the environment, the individual must first perceive an ethical problem. To evaluate the situation, the individual must perceive alternative courses of action and consequences to these actions. The ethical judgments are derived from considerations of the "moral values" that guide action (deontological evaluation, i.e. do not lie) and from consideration of the consequences of the action (teleological evaluation or the greatest benefit).

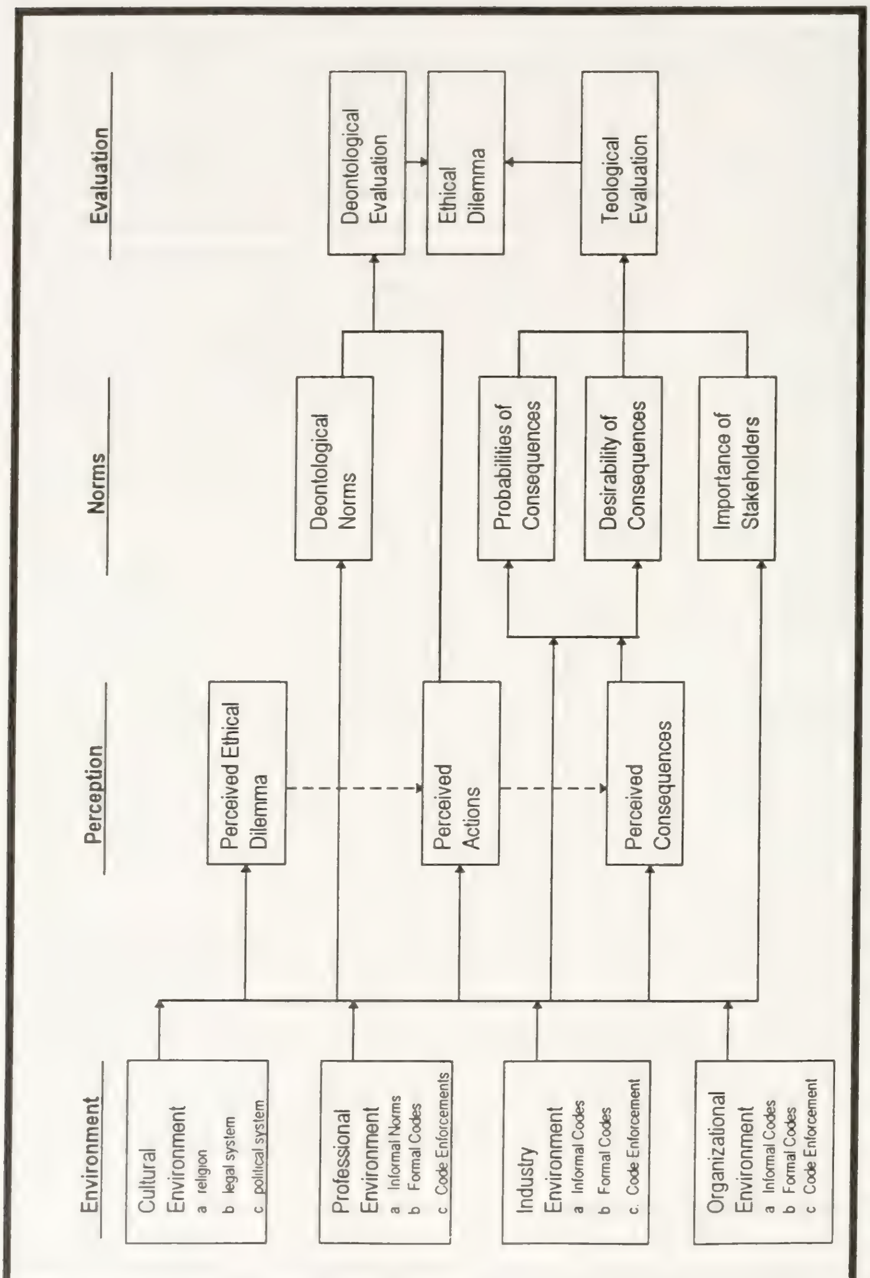
This research examines the effects of the environment on perceptions. First, there must be a perception that an ethical dilemma exists. To be perceived as a dilemma, a request for action must be seen as resulting in a loss of personal integrity or injury to another. Second, the perceived actions (Actions) are important in the ethical decision process. The respondent could comply with the request, refuse the request, or attempt to reach a compromise. Lastly, the perceived consequences (Consequences) of the actions speak to the responsibility of ethical decision makers to different stakeholders.

Perceptions occur within the environment. The cultural environment may have an impact on perceptions. Deng (1992) observed the variety of ethical standards and levels of morality which exist in different cultures. Research findings show support for differences in ethical judgments about organizational development dilemmas (White & Rhodeback, 1992), audit dilemmas (Cohen, Pant, & Sharp, 1993), auditor independence (Agacer & Doupnik, 1991), sales practices (Dubinsky, Jolson, Kotabe, & Lim, 1991), and general business practices (Whipple & Swords, 1992; Becker and Fritzsche, 1987). Several models (Kluckholm & Strodtbeck, 1961; Hofstede, 1980, 1991; Hall, 1976; Hall & Hall, 1990) have been proposed relating cultural dimensions to aspects of behavior. Several studies have shown how cultural norms affect ethical decision-making behavior (Hunt & Vitell, 1986; Cohen, Pant, & Sharp, 1993).

According to the Hunt and Vitell (1986) model, perceptions may also be affected by the profession and industry. For purposes of this study, the accounting profession and industry are considered to be the same. These factors are most easily represented by accounting systems classifications. The organizational environment factor is controlled or at least greatly moderated by using a student sample. This study focuses on the impact of the cultural environment and the professional environment on ethical decision making. The next two sections discuss various models of cultural influence and accounting systems classifications.

MODELS OF CULTURAL INFLUENCE

No matter which perspective one comes from, social scientists generally agree that culture is comprised of tangible and intangible things that pattern behavior. Sociologists Kroeber and Parsons (1958) defined culture as "the patterns of values, ideas, and other symbolic-meaningful systems as factors in shaping human behavior." Anthropologist E. B. Tylor



Source: Adapted from Hunt and Vitell, 1986

Figure 1. Model for Ethical Decision Making

(1896) defined culture as "the complex whole which includes knowledge, belief, art, morals, law, custom and any other capabilities and habits acquired by man as a member of society." Social psychologist K. E. Weick (1979) believes culture represents a "shared meaning," a context from which perception, meaning, and action emerge.

There can be little doubt that culture plays a dominant role in ethical decision making. Culture is a filter that interprets situations and guides behavior (Trujillo, 1985). Action emerges from the meaning attributed to the situation. Ethical behavior and actions are greatly influenced by the values embedded in culture. It is generally observed that cultures differ. There have been models developed that allow the comparison of cultures along several different dimensions, that is, Kluckholm and Strodbeck's time orientation, Hall's low context, and Hofstede's uncertainty avoidance. These models argue that although cultures may change slowly over time, they are essentially stable, even in the face of technological, economic, or political upheaval. Analysis is based on the assumption that different cultures may be compared along each model's dimensions. Different cultures may adopt different values and behaviors.

For instance, Kluckholm and Strodtbeck (1961) compared cultures using six composite dimensions:

human nature (good, evil, mix);

relationship to nature (dominant, harmony, subjugated);

relationship to others (hierarchical, collectivist, individualist);

mode of action (doing, becoming, being);

time orientation (future, present, past); and

conception of space (private, mixed, public).

This model is useful because it allows cultures to be compared along distinct dimensions. Critics of this model have pointed out that the connotation of these dimensions is subjective and may be understood differently in various cultures. Proponents of the model contend that even though there is subjectivity, the comparisons do yield some valuable insights. Others point out that this model is drawn from a social anthropological view and is not directly related to business matters. The implications of this model for management and the usefulness of this model in analyzing ethical decision making in business situations are not clear. Evan (1974) applied a modified model to business organizations, explaining the variations within a culture as predominant dimensions and subordinate dimensions. Maznevski and Chudoba (1995) are beginning to adapt this model to international business. So far, no comprehensive data on these orientations has been collected for many countries around the world. As of today, this model best lends itself to qualitative social research.

The social constructionist view of individual behavior contends that all action is emergent and situationally defined. According to Weick (1979), culture is a context from which emerges meaning and action. The full meaning of words and actions is not given *a priori* in the words and actions themselves. Meaning results from the cultural filter. Hall (1976) viewed the cultural contexts as the points at which people create and interpret communica-

tion. Cultural contexts contribute to the meaning given. Hall built a qualitative model that can be used to compare cultures based on the importance of context, providing a simpler, two-dimensional framework for culture. In high-context cultures the environment, situation, and nonverbal behavior are crucial to creating and interpreting communication. The message is implied in the circumstance. In low-context cultures there is a direct, verbal, or written communication. The meaning resides within the words themselves, not the gestures or situation. These communication styles have implications for management. Cross-cultural comparisons are based on qualitative analyses of business conduct.

Hofstede (1980) oriented his model to the underlying values that affect the way people work. His landmark study ranked 44 countries on work-related cultural dimensions. In his original model he proposed four dimensions of culture that were important to the work environment: power distance (social inequality/pecking order); uncertainty avoidance (resistance to change and ambiguity); individual/collective (cooperative or competitive relationships); and masculine/feminine (role). In a later study Hofstede (1991), added a time dimension and a few new countries. His research is important because it relates cultural influences to the management of work. Because of its scope (80 countries) and his computation of country scores for each dimension, his work has been widely used in cross-cultural studies of business situations.

One criticism of Hofstede's studies is that national boundaries may not exactly coincide with cultures. Some believe that there may be overlapping connotations between the dimensions. Others feel that the measurements may be out of date; there have been such dramatic, sustained changes in some countries that the Hofstede rankings may no longer hold. Researchers have also noted that data may be confounded by subcultures, industry differences, and organizational culture (the respondents in the original data were all IBM employees). While criticisms of his research abound, no other researcher has studied so many cultures in so much detail or related national cultures to business issues. Business research that addresses cultural impact continues to use Hofstede's dimensions.

This current study uses both the Hall and Hofstede dimensions since they clearly are related to business conduct and are quantifiable. Widely accepted, these models result in distinctive classifications of cultures.

ACCOUNTING SYSTEMS CLASSIFICATIONS

The adoption of different accounting systems is attributable to composite factors, including cultural differences (see Gray, 1988; Doupnik & Salter, 1995). Gray attempted to explain the development of accounting systems, the regulation of the accounting profession and attitudes toward financial management and disclosure by identifying accounting values. Gray defined these accounting values as follows:

> *Professionalism vs. Statutory Control*: A preference for the exercise of individual professional judgment and the maintenance of professional self-regulation as opposed to compliance with prescriptive legal requirements and statutory control.
>
> *Uniformity vs. Flexibility*: A preference for the enforcement of uniform accounting practices between companies and for the consistent use of such practices over time as opposed to flexibility in accordance with the perceived circumstances of individual companies.

> *Conservatism vs. Optimism*: A preference for a cautious approach to measurement so as to cope with the uncertainty of future events as opposed to a more optimistic, *laissez-faire*, risk-taking approach.
>
> *Secrecy vs. Transparency*: A preference for confidentiality and the restriction of disclosure of information about the business only to those who are closely involved with its management and financing as opposed to a more transparent, open, and publicly accountable approach. (Gray, 1988, p. 8)

Salter and Niswander (1995) found Gray's hypothesis to have statistically significant explanatory power for financial reporting practices. The research section of this paper contains Gray's four hypotheses, which relate these accounting values to Hofstede's cultural dimensions.

Another approach to analyzing differences in responses to ethical decision making is to classify countries by the accounting systems models adopted. These research studies are based on the belief that the adoption of a specific accounting model is not based solely on culture but is a composite of various dimensions (such as legal, economic, and governmental). The first attempt at classifying accounting practices is attributed to Mueller (1968). Mueller came up with ten groupings based on differences in the importance of economic, governmental, and business factors in the development of accounting systems. The ten groupings were: US-Canada-the Netherlands; British Commonwealth (excluding Canada); Germany-Japan; Continental Europe (excluding Germany, the Netherlands, and Scandinavia); Scandinavia; Israel-Mexico; South America; Developing Nations of the Near and Far East; Africa (excluding South Africa); and communist nations.

The American Accounting Association's (1977) morphology for comparative accounting systems included the following parameters: political system, economic system, stages of economic development, objectives of financial reporting, source of or authority for standards, education training and licensing, enforcement of ethics, and standards and clients. They produced a classification based on "zones of influence": British, French-Spanish-Portuguese, and German-Dutch.

Hopwood (1991) stated that accounting is recognized as being shaped by cultures, institutional configurations, and sociohistorical circumstances. Nair and Frank (1980) used Price Waterhouse Surveys to classify accounting practices using two financial reporting characteristics: measurement and disclosure. Their measurement classification resulted in four groupings: a British Commonwealth model, a Latin American model, a Continental European model, and a United States model.

In a later study, Mueller, Gernon, and Meek (1994) identified four major accounting models: British-American, Continental, South American, and Mixed Economy. They used a broad level of generalization, taking into account some variables that shape accounting development: the relationship between business and provider(s) of capital; political and economic ties with other countries; the legal system; the levels of inflation; the size and complexity of business enterprises; sophistication of management; financial community; and general levels of education.

One of the most recent studies on international accounting practice was done by Doupnik and Salter (1995), who formulated a general model of accounting development by combining institutional structure (legal system, educational system, regulatory agencies,

professional organizations) and culture. An important result of the study was that two classes of accounting systems emerged on the basis of the type of legal system: micro-based and macro-uniform. The legal system of the U.S., Canada, Australia, and the Philippines are micro-based, while Germany and Thailand are macro-uniform. An earlier study by Nobes (1983) classified countries as "micro" and "macro." His classifications were consistent with Doupnik and Salter's. Mueller (1968) and Mueller, Gernon and Meek (1994) are the only studies that include the former communist countries. This study creates a third category for the former communist countries and examines these countries along with Doupnik and Salter's (1995) classification.

HYPOTHESES TESTED

Hypotheses were developed using models of culture and accounting systems.

Culture

Two cultural theories are tested by this study: those of Hall and Hofstede. The Philippines, Thailand, China, Ukraine, and Moldova were identified as high-context cultures, and U.S., Canada, Australia, and Germany were identified as low-context cultures. The following hypothesis is tested based on Hall's theory:

> *Hall*: There is no significant difference between responses from countries with high-context cultures (PHI, THA, CHI, UKR, MOL) and low-context cultures (USA, CAN, AUS, GER).

Hofstede's seminal study identifies five cultural dimensions on which to classify countries. This study will test four of Hofstede's dimensions: individualism/collectivism, masculine/feminism, power distance, and uncertainty avoidance. Hofstede's country scores for each dimension was used to cluster countries, resulting in two groups, "high" and "low," for the first three dimensions. The fourth dimension, uncertainty avoidance, resulted in three groups based on the clustering of the country scores into "high," "medium," and "low."

Hofstede surveyed all of the countries under study except for Moldova, Ukraine, and China. The scores for Yugoslavia were used for Moldova and Ukraine because of their similaries prior to the major economic reform experienced by these countries in the late 1980s. Hofstede postulates China's scores for power distance as high and uncertainty avoidance, therefore the testing of the hypotheses on these two dimensions includes China. The following hypotheses based on Hofstede's theory are tested in this study:

> *Hofs1*: There is no significant difference between responses of countries with individualistic cultures (USA, CAN, AUS, GER) and those with collectivist cultures (PHI, THA, UKR, MOL).

> *Hofs2*: There is no significant difference between responses of countries with masculine cultures (USA, CAN, AUS, GER, PHI) and those from countries with feminine cultures (THA, UKR, MOL).

Hofs3: There is no significant difference between responses of countries with low power distance (USA, CAN, AUS, GER) and those with high power distance (PHI, THA, CHI, UKR, MOL).

Hofs4: There is no significant difference between responses of countries with low uncertainty avoidance (USA, CAN, AUS, PHI, CHI), medium uncertainty avoidance (GER, THA) and those with high uncertainty avoidance (UKR, MOL).

Note that the classification of the countries for the hypotheses testing Hall's theory and Hofstede's power distance (Hofs3) theory are the same.

Accounting Systems

The study tests two accounting systems classifications: culture based and composite based. The culture-based hypotheses were developed from Gray's theory. Gray formulated four hypotheses by relating combinations of Hofstede's cultural dimensions to accounting values. Classification of the nine countries based on Gray's theory resulted in two opposing groups for each accounting value. Two hypotheses resulted from the nine-country classification because the country groupings for three accounting values were the same:

Gray1: There is no significant difference between countries that are characterized by the accounting value of professionalism (USA, CAN, AUS, GER) and those characterized by the accounting value of statutory control (PHI, THA, UKR, MOL).

Gray2: There is no significant difference between countries that are characterized by the accounting values of flexibility, optimism, and transparency (USA, CAN, AUS, PHI); and those characterized by the accounting values of uniformity, conservatism, and secrecy (GER, THA, UKR, MOL).

As described earlier, there have been various attempts at classifying accounting systems based on composite factors. This study uses a combination of the more recent classifications. Mueller, Gernon and Meek (1994) classified the United States, Canada, Australia, and the Philippines under the British-American model; Germany in the Continental model; and Ukraine and Moldova in the Mixed Economy model. Doupnik and Salter's results clustered Thailand with Germany as macro-uniform and all the countries included in the British-American model as micro-based. For this reason, Thailand is classified with Germany. As a former communist country, China is classified under the Mixed Economy model.

Comp1: There is no significant difference among the responses of countries classified as British-American (USA, CAN, AUS, PHI), Continental (GER, THA), and Mixed Economy (CHI, UKR, MOL).

RESEARCH DESIGN

An ethical case from the American Accounting Association (1992) was selected for evaluation by in this study. Short cases are often used to represent ethical situations and effec-

tively analyze ethical judgments. The case, titled "*Smoke and Mirrors*" (see Appendix A for the actual case used) is about a young auditor, Chuck, who has just performed an audit. The CEO of the client company asks the auditor to make changes to the financial statements he has just prepared. The company recorded a net loss and is unable to obtain a much-needed loan. The client company's business represents a significant portion of the CPA company's revenues. Subjects are asked eight questions about this situation.

Questions were developed to represent each of the three perceptual elements of the adapted Hunt and Vitell (1986) model for ethical decision making. First, there must be a perception that an ethical dilemma exists. To be perceived as a dilemma, a request for action must be seen as resulting in a loss of personal integrity or must be seen as injuring another. The perceived dilemma (Dilemma) is analyzed in three questions:

Question 1: Dilemma due to outside concerns

I believe that the bank and creditors may be deceived if Chuck makes the changes suggested by the CEO.

Question 2: Dilemma due to consideration of integrity

I believe that if Chuck makes the changes suggested by the CEO, his integrity will be compromised and the CEO may have more questionable demands later.

Second, the perceived actions (Actions) are important in the ethical decision process. The respondent could comply with the request, refuse the request, or attempt to reach a compromise.

Question 3: Comply with the request

I believe that Chuck should make the changes suggested by the CEO because this will make him happy and future business will be assured.

Question 4: Refuse the request

I believe Chuck should tell the CEO that he cannot make the changes.

Question 5: Compromise

I believe that Chuck should talk to the CEO about his concerns and look for a compromise.

Last, the perceived consequences (Consequences) of the actions speak to the responsibility of accountants to different stakeholders. In this situation the stakeholders are the client, the creditors, and the accounting firm itself.

Question 6: Maintain fiscal health of the client company

I believe the accountant's duty is to maintain the fiscal health of the client firm.

Question 7: Creditors have the right to know

I believe the bank and prospective creditors have the right to know the client's financial position.

Question 8: Welfare of own accounting firm

I believe the accountant's primary responsibility is to increase the business of the accounting firm.

The effect of cultural dimensions and professional environment on the Dilemma, the Actions, and the Consequences are analyzed.

METHODOLOGY

The subjects participating in this study are junior and senior accounting students in eight of the nine countries. Students are often used to investigate business ethical judgments. Whipple and Swords (1992) and White and Rhodeback (1992) used students to study the effect of culture on business ethics and Vorherr, Patrick, Quinn, and Brady (1995) used students to study the effect of gender on business ethics. The use of students may mitigate the often-cited criticism of organizational bias in Hofstede's work; see Gernon (1993). In Moldova, where accounting education is in the developmental stage, the subjects were trainees in an accounting/auditing seminar conducted by an independent public accounting company. The following countries (number of participants) were represented in this study: USA (136), CAN (92), AUS (39), GER (69), PHI (89), THA (99), CHI (89), UKR (107), and MOL (14).

All of the universities are located in major metropolitan areas. Females represented 57% of the subjects from the United States, 46% from Canada, 38% from Australia, 44% from China, 66% from the Philippines, 58% from Thailand, 20% from Germany, 92% from Moldova, and 36% from Ukraine. Most of the subjects in China, Thailand, and the Philippines were not employed.

The questionnaire was prepared in English and administered in English in the United States, Canada, Australia, and the Philippines, since the medium of instruction is in English. In other countries, U.S.-trained Accounting professors translated the case and questionnaire into their respective native languages: Mandarin Chinese, Thai, Deutsche, and Russian (the language common to Moldova and Ukraine). The Chinese, Deutsche, and Russian questionnaires were back-translated. There were no problems; however, no translator was found for back-translation of the Thai questionnaire. Prior experience indicated that the U.S.-trained Accounting professors translated the questionnaires reliably. The questionnaire took approximately ten minutes to complete. The Thai questionnaire inadvertently omitted the last question, so that all analyses involving the last question omit Thailand.

RESULTS

The multivariate analysis of variance (MANOVA) (see Hair, Anderson, & Tatham, 1987) was calculated to study the relationships of the three questions under each perceptual element (Dilemma, Actions, and Consequences) of the ethical decision-making process simultaneously. One-way analysis of variance (ANOVA), which compared responses under each hypothesis, was calculated for each question. Table 1 presents the mean and standard deviation of the responses to each question by country. The more extreme answers from moldova are partly due to the low number of responses and the lack of formal accounting education. Table 2 summarizes the results of the manova and anova tests on all the hypotheses tested.

Table 1. Mean (Standard Deviation) Response for Each Question by Country

+------+------+------+------+------+------+------+
1 2 3 4 5 6 7
Strongly Disagree *Strongly Agree*

I. Dilemma

1 I believe that the bank and creditors may be deceived if Chuck makes the changes suggested by the CEO.

USA	Canada	Australia	Germany	Philippines	Thailand	China	Ukraine	Moldova
5.49	4.88	5.08	5.03	4.91	5.36	4.97	4.50	6.79
(1.48)	(1.46)	(1.63)	(1.46)	(1.86)	(1.63)	(1.86)	(2.10)	(0.58)

2 I believe that if Chuck makes the changes suggested by the CEO, his integrity will be compromised and the CEO may have more questionable demands later.

USA	Canada	Australia	Germany	Philippines	Thailand	Germany	Ukraine	Moldova
5.74	5.6	5.92	5.22	5.63	5.81	5.22	5.10	6.79
(1.41)	(1.23)	(1.20)	(1.68)	(1.77)	(1.45)	(1.68)	(1.90)	(0.43)

II. Actions

3 I believe that Chuck should make the changes suggested by the CEO because this will make him happy and future business will be assured.

USA	Canada	Australia	Germany	Philippines	Thailand	Germany	Ukraine	Moldova
2.48	2.75	2.33	2.17	2.33	2.68	2.17	3.8	1.86
(1.47)	1.27	(1.42)	(1.24)	(1.32)	(1.48)	(1.24)	1.90	(1.83)

4 I believe Chuck should tell the CEO that he cannot make the changes.

USA	Canada	Australia	Germany	Philippines	Thailand	Germany	Ukraine	Moldova
5.62	6.01	5.62	5.13	5.57	5.92	5.13	4.4	5.43
(1.73)	(1.42)	(1.60)	(1.62)	(1.61)	(1.20)	(1.62)	(2.20)	(0.47)

5 I believe Chuck should talk to the CEO about his concerns and look for a compromise.

USA	Canada	Australia	Germany	Philippines	Thailand	Germany	Ukraine	Moldova
5.18	4.9	5.64	5.26	5.28	5.6	5.26	5.40	6.71
(1.69)	1.15	(1.74)	(1.76)	(1.63)	(1.28)	(1.76)	-2.00	(1.95)

III. Consequences

6 I believe the accountant's duty is to maintain the fiscal health of the client firm.

USA	Canada	Australia	Germany	Philippines	Thailand	Germany	Ukraine	Moldova
5.49	4.88	5.08	5.03	4.91	5.36	5.03	4.50	6.79
(1.48)	(1.46)	(1.63)	(1.46)	(1.86)	(1.63)	(1.46)	-2.10	(0.58)

7 I believe the bank and prospective creditors have the right to know the client's financial position

USA	Canada	Australia	Germany	Philippines	Thailand	Germany	Ukraine	Moldova
6.09	6.23	6	5.93	6.47	6.16	5.93	5.40	6.93
(1.00)	(0.74)	(1.19)	(1.29)	(0.71)	(0.96)	(1.29)	2.00	(0.27)

8 I believe the accountant's primary responsibility is to increase the business of the accounting firm.

USA	Canada	Australia	Germany	Philippines	Thailand	Germany	Ukraine	Moldova
3.21	2.77	3.84	2.26	2.39	N A	2.26	5.90	6.00
(1.65)	(1.38)	(1.91)	(1.51)	(1.37)		(1.51)	(1.60)	1.62

Table 2. Results of MANOVA and ANOVA
Significance of *Pillais F (for MANOVA)* and F-test (for ANOVA)

	Culture					Accounting System		
		Hofstede*				Culture Based – Gray*		Composite
	Hall	IDV	MAS	PD	UAV	Prof.	Others	Based
I. Dilemma	0.085	0.295	0.785	0.085	0.137	0.295	0.145	0.000
1. Dilemma due to consideration of outside concerns	0.100	0.119	0.484	0.100	0.042	0.119	0.419	0.052
2. Dilemma due to consideration of integrity	0.005	0.635	0.449	0.005	0.361	0.635	0.050	0.000
II. Actions	0.000	0.003	0.000	0.000	0.000	0.003	0.000	0.000
3. Comply with request	0.000	0.001	0.000	0.000	0.000	0.001	0.000	0.000
4. Refuse the request	0.051	0.838	0.339	0.051	0.000	0.838	0.557	0.000
5. Compromise	0.731	0.832	0.967	0.731	0.079	0.832	0.127	0.732
III. Consequences	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6. Maintain fiscal health of the client company	0.059	0.005	0.000	0.059	0.000	0.005	0.114	0.000
7. Creditors have the right to know	0.781	0.993	0.001	0.781	0.000	0.993	0.000	0.000
8. Welfare of own accounting firm	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

* IDV - Individualism/collectivism
MAS - Masculine/feminine
PD - Power distance
UAV - Uncertainty avoidance.
China is included in analysis of power distance and uncertainty avoidance

** Prof: Professionalism vs. statutory control
Others: Uniformity vs. flexibility, conservatism vs. optimism, secrecy vs. transparency

The Pillais' F, Hotellings' F, And Wilks' F-tests of the manova revealed identical results. The hypotheses were tested at the .05 And .10 Levels of significance.

Culture

The MANOVA test of Hall's hypothesis found significant difference in the Actions and Consequences elements (both at the .05 level) and in the Dilemma element (at the .10 level). Responses from high-context countries (PHI, THA, CHI, UKR and MOL) were significantly different from low-context countries (USA, CAN, AUS, GER) for three of the eight questions at the .05 level and three at the .10 level using ANOVA. The low-context countries agreed more strongly that the dilemma is due to the consideration of outside concerns and of integrity. High-context countries believe that the accountant is responsibility for the welfare of his or her accounting firm. There were significant differences in whether a request should be complied with or refused. The low-context countries per-

ceived more strongly the need to refuse the request of the client. Low-context and high-context countries agreed that the most important stakeholders are the creditors. The high-context countries agreed more strongly about the responsibility of maintaining the fiscal health of the client company and the welfare of the accounting firm. Table 3 reports the mean scores under each classification for each cultural hypothesis.

The MANOVA tests for the Hofstede hypothesis were significant at the .05 level for the Actions and Consequences elements, indicating that there is a significant difference between the relationships of the responses within the two elements of the ethical decision-making process. Among the four cultural dimensions tested, the power distance hypothesis for the Dilemma element was the only one that was significant at the .10 level.

The null hypothesis (Hof1) on individualism is rejected for Question 3, indicating a significant difference in whether to comply with the CEO's request between the individualistic cultures (USA, CAN, AUS, GER) and the collectivist cultures (THA, UKR, MOL, PHI). Although both groups did not want to make the suggested changes, the more individualistic cultures had stronger responses. The countries with individualistic cultures tended to disagree more significantly that the accountant's responsibility is for the welfare of the client's company as well as the welfare of the accounting firm.

The responses of the masculine cultures (USA, CAN, AUS, GER, PHI) differed significantly from the feminist cultures (THA, UKR, MOL) on the question about compliance with the CEO's request. The masculine cultures strongly agreed that the creditors have the right to know about the fiscal health of the firm and disagreed that the accountant has responsibility for maintaining the fiscal health of the client company and his own accounting firm. Among the three stakeholders, it is clear that the masculine cultures believe the most important are the creditors. The importance of the creditors as stakeholders in contrast to the client firm and accounting firm are not as pronounced for feminist cultures.

As noted earlier, the country classifications that resulted from Hall's theory and Hofstede's power distance dimension are the same. The responses from countries with low power distance (USA, CAN, GER, AUS) disagreed more strongly about complying with the request to change than the countries with higher power distance (THA, UKR, MOL, PHI, CHI). The countries with lower power distance strongly disagreed that the responsibility of the accountant is for the welfare of their own accounting firm. Both groups agreed only on compromise and the creditors' right to know. The power distance dimension seems to underline differences in perceptions in the ethical decision-making process.

On six of the eight questions, there was significant difference between responses from countries with lower uncertainty avoidance (USA, CAN, AUS, PHI, CHI), medium uncertainty avoidance (GER, THA), and higher uncertainty avoidance (UKR, MOL). The results of the question on the dilemma due to outside concerns are inconsistent. The mean response of the countries classified with medium uncertainty avoidance was higher than the two other groups. Both the means of the countries classified as low and medium uncertainty avoidance are higher than the means of the countries with higher uncertainty avoidance. Of all the hypotheses, only uncertainty avoidance uncovered significant differences, at the .10 level, for Question 5 on compromise. The degree of agreeing to compromise is inversely related to the degree of uncertainty avoidance. The respondents from low and medium uncertainty avoidance cultures believe that the accountant's most important stakeholder is the creditor; those with higher uncertainty avoidance believe that maintaining the fiscal health of the client company is more important. Looking at the

Table 3. Results of Culture Hypotheses
Mean (Standard Deviation) for Groupings

	Hall			Hofstede					
				Individualism			Masculine		
	USA, CAN, AUS, GER	PHI, THA, CHI, UKR, MOL	ANOVA p-value	USA, CAN, AUS, GER	PHI, THA, UKR, MOL	ANOVA p-value	USA, CAN, AUS, GER, PHI	THA, UKR, MOL	ANOVA p-value
1. Dilemma due to consideration of outside concerns	5.180 (1.500)	4.970 (1.900)	0.100	5.180 (1.500)	4.970 (1.910)	0.119	5.110 (1.610)	5.010 (1.940)	0.484
2. Dilemma due to consideration of integrity	5.620 (1.410)	5.280 (1.860)	0.005	5.620 (1.410)	5.560 (1.730)	0.635	5.620 (1.510)	5.520 (1.700)	0.449
3. Comply with request	2.480 (1.380)	3.040 (1.750)	0.000	2.480 (1.380)	2.880 (1.700)	0.001	2.440 (1.360)	3.180 (1.810)	0.000
4. Refuse the request	5.170 (1.620)	4.920 (1.860)	0.051	5.170 (1.620)	5.150 (1.780)	0.838	5.200 (1.620)	5.070 (1.870)	0.339
5. Compromise	5.630 (1.600)	5.670 (1.690)	0.731	5.630 (1.600)	5.600 (1.700)	0.832	5.610 (1.610)	5.620 (1.740)	0.967
6. Maintain fiscal health of the client company	3.880 (1.800)	4.160 (2.200)	0.059	3.880 (1.800)	4.300 (2.200)	0.005	3.900 (1.820)	4.510 (2.340)	0.000
7. Creditors have the right to know	6.080 (1.030)	6.050 (1.380)	0.781	6.080 (1.030)	6.070 (1.370)	0.993	6.190 (0.970)	5.840 (1.590)	0.001
8. Welfare of own accounting firm	2.970 1.650	3.800 (2.090)	0.000	2.970 (1.650)	3.930 (1.700)	0.000	2.810 (1.600)	4.790 (2.030)	0.000

	Hofstede						
	Power Distance			Uncertainty Avoidance			
	USA, CAN, AUS, GER	PHI, THA, CHI, UKR, MOL	ANOVA p-value	USA, CAN, AUS, PHI, CHI	GER, THA	UKR, MOL	ANOVA p-value
1 Dilemma due to consideration of outside concerns	5.180 (1.500)	4.970 (1.900)	0.100	5.090 (1.680)	5.230 (1.560)	4.720 2.120	0.042
2 Dilemma due to consideration of integrity	5.620 (1.410)	5.280 (1.860)	0.005	5.410 (1.680)	5.570 (1.570)	5.290 1.860	0.361
3 Comply with request	2.480 (1.380)	3.040 (1.750)	0.000	2.700 1.540	2.480 (1.400)	3.590 (1.960)	0.000
4 Refuse the request	5.170 (1.620)	4.920 (1.860)	0.051	4.980 (1.730)	5.460 (1.390)	4.640 (2.190)	0.000
5. Compromise	5.630 (1.600)	5.670 (1.690)	0.731	5.740 (1.590)	5.600 (1.540)	5.370 (2.010)	0.000
6 Maintain fiscal health of the client company	3.880 (1.800)	4.160 (2.200)	0.059	3.920 (1.880)	2.890 (1.710)	6.070 (1.610)	0.000
7 Creditors have the right to know	6.080 (1.030)	6.050 (1.380)	0.781	6.180 (1.010)	6.070 (1.110)	5.590 (1.920)	0.000
8. Welfare of own accounting firm	2.970 1.650	3.800 (2.090)	0.000	2.990 (1.630)	2.960 (1.700)	5.890 (1.600)	0.079

mean responses in Table 3, the differences in responses toward the importance of the creditors as a stakeholder (compared to the client company or accounting firm) is more pronounced for cultures with low and medium uncertainty avoidance.

Accounting Systems

The hypotheses developed with Gray's theory revealed MANOVAs showing significant differences among groups in the Actions and Consequences elements of the ethical decision-making process (at the .05 level). The responses of countries that are classified as having a higher degree of professionalism (USA, CAN, AUS, GER) are significantly different from the countries that are classified as having a higher degree of statutory control (PHI, THA, UKR, MOL) in three of the questions at the .05 level. Neither of the questions in the Dilemma element was significant. The countries with a higher degree of professionalism disagreed more strongly about complying with the CEO's request. The countries that had a higher degree of statutory control believed more strongly in the responsibility of maintaining the fiscal health of the client's firm and the welfare of their own accounting firm as well as maintaning a responsibility to the creditors. The mean scores under each classification for each accounting system hypothesis are reported in Table 4.

The second hypothesis derived from Gray's theory classified countries according to the following characteristics: flexibility, conservatism, and optimism (USA, CAN, AUS, PHI) vs. uniformity, optimism, and transparency (GER, THA, UKR, MOL). Although the MANOVA for the Dilemma element as a whole was not significant, the question about the dilemma due to consideration of integrity is significant at the .05 level. The countries that were more flexible, optimistic, and transparent agreed more strongly that if accountants make changes, they might be compromising their integrity. The Actions element was significant for the question about agreeing to comply with the CEO's request. While all countries disagreed about complying with the request, the degree of disagreement was greater for the more flexible, optimistic, and transparent countries. According to countries that are more flexible, optimistic, and transparent, the primary stakeholders are clearly the creditors. This is less clear with countries that are more uniform, conservative, and secretive.

Three groups of accounting systems (British-American: USA, CAN, AUS, and PHI; Continental: THA and GER; and, Mixed Economy: UKR, MOL, and CHI) were compared. The MANOVA revealed significant differences in the three perceptual elements—Dilemma, Actions, and Consequences (at the .05 level). The results of the ANOVA revealed responses to the individual questions to be significantly different in six of the eight questions. The seventh question has a p-value of .052, which is close to the .05 level of significance. The British-American and Continental groups agreed more strongly than Mixed Economy that the dilemma was due to consideration of outside concerns and to consideration of integrity. On Actions, the British-American and Continental groups, more strongly than Mixed Economy, wanted to refuse the request rather than comply. The response to Question 5 by all three classifications was not significant. They all agreed to a compromise. Although the respondents from British-American and Continental groups agreed that the primary stakeholders are the creditors, they agreed to a lesser extent on the importance of the other stakeholders. Respondents from the British-American group said maintaining the fiscal health of the client company was more important than maintaining

Table 4. Results of Accounting Systems Hypotheses
Mean (Standard Deviation) for Groupings

	Culture Based - Gray					
	Professionalism			Uniformity, Conservatism, Secrecy		
	USA, CAN, AUS, GER	PHI, THA, UKR,MOL	ANOVA p-value	USA, CAN, AUS, PHI	GER, THA, UKR, MOL	ANOVA p-value
1. Dilemma due to consideration of outside concerns	5.120 (1.640)	4.970 (1.910)	0.119	5.180 (1.500)	5.010 (1.830)	0.419
2. Dilemma due to consideration of integrity	5.690 (1.470)	5.560 (1.730)	0.635	5.620 (1.410)	5.450 (1.700)	0.050
3. Comply with request	2.480 (1.380)	2.880 (1.700)	0.001	2.480 (1.380)	2.940 (1.750)	0.000
4. Refuse the request	5.190 (1.620)	5.150 (1.780)	0.838	5.170 (1.620)	5.120 (1.810)	0.557
5. Compromise	5.700 (1.570)	5.600 (1.700)	0.832	5.630 (1.600)	5.500 (1.750)	0.127
6. Maintain fiscal health of the client company	3.990 (1.800)	4.300 (2.200)	0.005	3.880 (1.800)	4.230 (2.290)	0.114
7. Creditors have the right to know	6.230 (0.900)	6.070 (1.370)	0.993	6.080 (1.030)	5.860 (1.520)	0.000
8. Welfare of own accounting firm	2.910 (1.590)	3.930 (1.700)	0.000	2.970 (1.650)	4.190 (2.200)	0.000

	Composite Based			
	USA, CAN, AUS, PHI	GER THA	UKR, MOL, CHI	ANOVA p-value
1. Dilemma due to consideration of outside concerns	5.120 (1.640)	5.230 (1.560)	4.820 (2.020)	0.052
2. Dilemma due to consideration of integrity	5.690 (1.470)	5.570 (1.570)	4.820 (1.980)	0.000
3. Comply with request	2.480 (1.380)	2.480 (1.400)	3.620 (1.900)	0.000
4. Refuse the request	5.190 (1.620)	5.460 (1.390)	4.400 (2.090)	0.000
5. Compromise	5.700 (1.570)	5.600 (1.540)	5.610 (1.880)	0.732
6. Maintain fiscal health of the client company	3.990 (1.800)	2.890 (1.710)	5.020 (2.240)	0.000
7 Creditors have the right to know	6.230 (0.900)	6.070 (1.110)	5.750 (1.730)	0.000
8. Welfare of own accounting firm	2.910 (1.590)	2.960 (1.700)	4.800 (2.090)	0.000

the fiscal health of their own accounting firm. The Continental group thought the opposite. Mixed Economy respondents made little distinction as to who the primary stakeholders are, and their responses indicate the importance of all three stakeholders: client company, creditors, and the accounting firm. The accounting systems classification yielded the most differences of any of the classification schemes.

DISCUSSION AND IMPLICATIONS

This study examines the influence of different cultural dimensions on the three perceptual elements of the ethical decision-making process (Dilemma, Actions, and Consequences). Different models for the cultural dimensions were used (Hall & Hofstede) to evaluate the decision-making process. Country groupings differed according to the cultural model used. In general, both models showed significant differences between groups in each of the three aspects of the ethical decision-making process: perceived dilemma, preference for action, and role of the accountant. It is clear that no matter which classification scheme is used, these results show that culture has an effect on the ethical decision-making process. The closeness in the research results reflect the similarity in the way the cultural dimensions are operationalized. The dimensions of the different cultural models reflect similar constructs.

Using the accounting system classification to analyze differences in ethical decision-making yielded nearly the same results. This indicates that the accounting system choice has a strong cultural derivation. The greater explanatory power of the accounting system classification in the perceptions of ethical dilemma indicates that the accounting model adopted may represent a more powerful composite variable of the professional and cultural environments. This alternative may be easier to operationalize than the confounding influences of multidimensional cultural models.

Based on this preliminary investigation of accountants' ethical decision-making process, Hofstede's classification provides some explanation for the differences in responses. The strongest differences came from the questions on Consequences, which used each of the four dimensions individually. The power distance dimension explained the differences in Dilemma more significantly than the differences in the other dimensions. Differences in Actions were better explained by power distance and uncertainty avoidance. The classification of the responses to test Hall's hypothesis were the same as power distance.

Gray (1988) and MacArthur (1996) hypothesized uncertainty avoidance and individualism as the two dimensions that have the most impact on the accounting subculture. There were significant differences on the Consequences that pertain to the importance of the stakeholders of accounting information. Gray hypothesized that the higher the individualism and the lower the uncertainty avoidance, the higher the professionalism. The results of this study lend some support to Gray's hypotheses.

To answer the research questions: Yes, various cultures perceive the ethical dilemma differently; yes, these cultures prefer different types of actions; and yes, these cultures perceive the role of the accountant differently in response to the consequences. However, the question of whether one model of cultural dimension does a better job of explaining differences than others is less conclusive, since all of the models tested showed significant differences. Hall's model and Hofstede's uncertainty avoidance and power distance indi-

cated differences in six of the eight questions. However, the accounting system model showed differences in seven of the eight questions. This result leads to consideration of the last question raised. Can accounting system choice be used as a surrogate or composite for cultural differences? The test results suggest that the accounting system model could be as good as the cultural factors used in this study.

When the accounting systems model was used to cluster countries, nearly all of the null hypotheses were rejected. In this model the Philippines was clustered with the United States, Canada, and Australia. This seems to suggest that testing based on individual cultural dimensions may be problematic because there are several cultural dimensions interacting and they may mitigate each other. Although the Philippines differed from the United States, Canada, and Australia on two dimensions—power distance and individualism—the strongest influence on the development of their accounting system and profession is the United States. The adoption of a specific accounting system is based on a composite of factors, culture being only one of them (Doupnik & Salter, 1995; Mueller, 1968; AAA, 1977).

The accounting systems and the accounting profession in China, Ukraine, and Moldova are developing very quickly through the help of grants from USAID. These three countries are classified together because of the commonalities in their communist pasts. The development of accounting in these countries may be progressing in different stages. The further development of their accounting systems will most likely be influenced by trading partners. The strategy of most of the newly independent states has been to adopt the International Accounting Standards and the European Union Accounting Standards. The accounting systems adopted by the members of the European Union are diverse: the Netherlands, the United Kingdom, Ireland, and Luxembourg are classified as British-American, while the rest of the European Union countries are classified as Continental.

This study suggests that when accounting professionals do business in countries with similar accounting systems, they might expect similar ethical decision-making responses to accounting ethical dilemmas. The results might also lend some support to the model developed by Cohen, Pant, and Sharp (1992) on the Ethical Conduct of Professionals in Accounting. The model suggests that, apart from cultural values, socioeconomic conditions such as level of professional development and expertise, as well as the availability of economic resources, are moderating constraints to ethical conduct.

LIMITATIONS

One of the strengths of this study is the large number of countries examined. The results are confounded by the varying sample sizes of responses from the different countries. Australia and Moldova had particularly small sample sizes. However, similar results were obtained when these countries were omitted from the study. Since this study is exploratory, the responses from these two countries were included. The generalizability of the results is limited because it is based on the administration of one ethical case. These results should be viewed as preliminary until they can be replicated using other cases.

All of the culture and accounting systems classifications used grouped United States, Canada, and Australia together. The Hofstede scores for these countries are very similar. Gray's accounting values are based on Hofstede's scores and would likewise yield the same classifications for these countries. All of the accounting systems classifications discussed earlier also group these three countries together. This may limit the impact of the results but is unavoidable when operationalizing these constructs.

Further, the scores used for Ukraine and Moldova were the Hofstede country scores calculated for Yugoslavia more than ten years ago. The economic revolution in Yugoslavia as well as the other former communist countries may have caused the scores to be invalid. The country scores of the cultural dimensions should be continually updated for all countries because of such changes. From a practical point of view, this study relied on the only available data. Given the similar results of other cultural models, the Hofstede country scores appear to be useful. It is important to include the responses from China, Ukraine, and Moldova because of the insight that can be obtained about ethical decision-making processes.

This study did not examine the social desirability response, bias or "halo effect," that is pervasive in ethics research; see for example, Cohen, Pant, and Sharp (1995). The problem is even more pervasive for the Eastern European countries and China because they are just developing their accounting profession. Table 1 shows that Ukraine and Moldova respondents viewed the three stakeholders as equally important in the Consequences.

FUTURE RESEARCH

It is hoped that Hofstede's work will be updated and reevaluated sometime in the future. The changes in the economic and political climate of various countries may change their cultural dimensions over long periods of time. It will be interesting to see if the cultural dimensions are the same for each of the Newly Independent States as well as China. One way to carefully examine the effect of each individual cultural dimension is to select countries that have the same score for three of the dimensions with one differing dimension.

This study found support for the use of the accounting models as a composite of cultural and professional dimensions. Further exploration of this alternative should be pursued. Future research might incorporate a broader array of countries (including South America and Africa) and use classifications based on various accounting models. This research has been exploratory and used only one ethical dilemma. Replication of this study with a variety of ethical scenarios and a richer array of countries is needed.

One of the most significant differences in the ethical decision-making process is in the element of Consequences: the importance of various stakeholders of accounting reports. This raises questions about the disclosure of accounting information. More research on the effect of culture on disclosure attitudes is needed. More research is also needed about accounting professionalism. It would be interesting to know how the level of education, the examination requirements, and the number of professional accountants per capita of various countries affect the ethical decision-making process.

APPENDIX A

Summary of Relevant Studies on Ethical Decision-Making in Accounting

Author	Publication (Date)	Sample	Method	Research Problem	Analysis	Results
Professional Environment						
Frank, Sarhan, & Fisher	*Management Accounting* (1990)	N.A.	Conceptual discussion	Can students handle ethical dilemmas in the workplace?	Descriptive	There is a gap between academia and the workplace and a better partnership is needed to improve the profession
Weber & Green	*Journal of Business Ethics* (1991)	Accounting majors (116)	Outside class written interview	Moral reasoning	Compared pre-course and post-course scores	Positive course impact
Cohen & Pant	*Journal of Business Ethics* (1991)	CPAs (230)	Mail survey	How members of public accounting profession evaluate the effectiveness of self-regulatory and externally imposed mechanisms	Scheffer's multiple comparison test	Public accountants could monitor themselves better than others can
Hiltebeitel & Jones	*Journal of Business Ethics* (1992)	Accounting students (171)	In-class survey – ethical dilemmas	Does education impact how accounting students resolve ethical problems	MANOVA	Education affects how students resolve professional ethical dilemmas but not personal ethical dilemmas
Schultz, Johnson, Morris, & Dymes	*Journal of Accounting Research* (1993)	Managers from large companies in France (4), Norway (3), and the U.S. (3) with 145 responses	6 cases	Framework to predict reporting of questionable acts	ANOVA	The model proved significant in explaining reporting tendencies
Jeffrey & Weatherholt	*Behavioral Research in Accounting* (1996)	Accountants (102 CPAs and 85 managerial accountants)	Questionnaire	The relationship between ethical reasoning and professional commitment	ANOVA	Differences in ethical development may be the result of the socialization of the work environment
Kite, Louwers, & Radtke	*Behavioral Research in Accounting* (1996)	Internal auditors from 21 companies (78)	Mail survey of environmental auditing practices and DIT	Differences in moral reasoning levels among environmental auditors, internal auditors, and public accountants	T-TESTS	Environmental auditors did not have significantly higher DIT scores and those assigned to environmental audits had significantly lower scores than those requesting assignments

Author	Publication (Date)	Sample	Method	Research Problem	Analysis	Results
Cultural Environment						
Belkaoui & Pincur	*International Journal of Accounting* (1991)	Managers and partners from Big 6 firms (87): 47 US, 21 British, and 19 Canadian	Concept perception experiment	Perceptions of accounting concepts from different cultures	2 techniques for multidimensional scaling: TORSCA nonmetric scaling routine and INDSCAL model	Accountants from different cultures differ in their perceptions of accounting concepts
Cohen, Pant, & Sharp	*Accounting Horizons* (1993)	N.A.	Conceptual understanding	Cultural factors that influence auditors' ethical perspectives regarding questionable client behavior	Descriptive	Identified cultural influences from the literature and the need for cultural understanding in ethical sensitivity
Bagranoff, Houghton, & Hronsky	*Behavioral Research in Accounting* (1994)	Auditors from Big 6 accounting firms (84 U.S. and 96 Australia)	6 cases	Do cross-cultural differences influence accounting meaning?	Factor analysis	Cross-cultural differences do influence decision making
Fechner & Kilgore	*International Journal of Accounting* (1994)	N.A.	N.A.	Influence of culture on accounting practice	Descriptive	A model of the moderating influences for selecting accounting principles
Cohen, Pant, & Sharp	*Behavioral Research in Accounting* (1995)	Auditors in one multinational accounting firm (138)	Administered survey – 8 vignettes	Differences of ethical decision-making of auditors In different cultures	MANOVA	Culture is related to differences in ethical evaluations
MacArthur	*International Journal of Accounting* (1996)	Corporate accountants (47)	Comment letters	Influence of culture on corporate comment letters to IASC	Content analysis	Power distance and individualism were the cultural values supported by the analysis
Professional Environment						
Nair and Frank	*The Accounting Review* (1980)	Auditors in 38 and 46 countries	2 Price Waterhouse surveys of accounting principles and practice	Classification of similar accounting systems based on measurement and disclosure	Factor analysis	Measurement and disclosure principles lead to different groupings of countries
Ponemon & Glazer	*Issues in Accounting Education* (1990)	Accounting students and alumni (143)	In-class DIT questionnaire and mailed survey	Ethical reasoning	Means and standard deviations	Moral reasoning of accounting students increased with educational level

Author	Publication (Date)	Sample	Method	Research Problem	Analysis	Results
Professional Environment						
Shaub & Lawrence	*Behavioral Research in Accounting* (1996)	Auditors from 56 different offices of a single Big 6 firm (156)	Administered questionnaire -- 9 scenarios	Testing a model of professional skepticism	LISREL	Auditors endorsing situation ethics are less skeptical and less concerned with professional ethics; CPAs exhibit less skeptical behavior than uncertified colleagues
Ghosh & Crain	*Behavioral Research in Accounting* (1996)	Students (54)	Experiment	Investigate individual and situational factors in tax noncompliance	ANOVA	Individuals with higher ethical standards will have lower intentional noncompliance
Organizational Environment						
Mcnair	*Accounting, Organizations & Society* (1991)	200 auditors from 3 major public accounting firms	Interviews, surveys, Delphi panels	Public accounting environment (with conflicting goals) leads to ethical ambivalence	Interpretive	Audit firms promote an attitude of compromise within individual audit staff members
Ponemon	*Accounting, Organizations & Society* (1992)	CPAs (202,193,80)	Measured ethical reasoning (DIT) with 6 hypothetical cases	Examined the ethical reasoning of CPAs in professional practice	Means tests. Kendall's T	Found the existence of socialization where those progressing to manager and partner positions tend to possess lower and more homogeneous levels of ethical reasoning
Shaub, Finn, & Munter	*Behavioral Research in Accounting* (1993)	Auditors in Big 6 firms (207)	Field study/ administered survey/questions and scenarios	Ethical orientation of individuals	ANOVA, Path Analysis	Auditor's ethical orientation was found to influence his or her ethical sensitivity and organizational committment
Gul & Tsui	*International Journal of Accounting* (1993)	Hong Kong (18) and Australian (17) auditors	Analyzed the financial statements of 1 company	Effect of uncertainty avoidance on perception of the uncertainty "subject to," audit qualification	T test	

Author	Publication (Date)	Sample	Method	Research Problem	Analysis	Results
Organizational Environment						
De Zoort & Lord	*Behavioral Research in Accounting* (1994)	Auditors from 1 international accounting firm (146)	3 vignettes	Role of obedience pressure on auditor judgments	MANOVA	Auditors are susceptible to obedience pressures
Jones & Hiltebeitel	*Journal of Business Ethics* (1995)	IMA members (250)	Mailed – 5 ethical situations	Moral decision processes of accountants	Factor analysis	Ethical decision processes of accountants are influenced by organizational support and moral development of accountants is ongoing
Tsui & Gul	*Accounting, Organizations & Society* (1995)	Experienced auditors of Big 6 and non Big 6 firms (80)	Case analysis	Investigates the interaction of locus of control, personality variables, and ethical reasoning in a dilemma	Multiple regression	Ethical reasoning moderated the relationship between locus of control and the auditor's responses to accede to the client's requests in an audit conflict
Perceptions						
Fulmer & Cargile	*Issues in Accounting Education* (1987)	Students in accounting and business (190)	In class survey – 1 scenario	Differences in ethical reasoning Of different majors	Chi square	Accounting students have higher ethical perceptions but same actions
Welton & Davis	*International Journal of Accounting* (1990)	College students in business in U.S. and New Zealand (650)	Questionnaire – 2 vignettes	Compares the ethical responses of U.S. and New Zealand accounting students	ANOVA	Students with ethics had different ethics perceptions
Arnold & Ponemon	*Auditing: Journal of Practice and Theory* (1991)	106 internal auditors	Experiment	Internal auditor's perceptions of whistle-blowing within the context of his or her level of moral reasoning	ANOVA	Internal auditors with relatively low levels of moral reasoning as measured by DIT scores were unlikely to predict whistle-blowing as a means of disclosing wrongdoing

Author	Publication (Date)	Sample	Method	Research Problem	Analysis	Results
Perceptions						
Schweikart	*Accounting, Organizations & Society* (1993)	N.A.	Conceptual discussion	The act of giving an account is one way of speaking about the shape of moral reasoning	Logical	There is an ethical responsibility in the way an activity is described
Gaa	*Behavioral Research in Accounting* (1996)	N.A.	Conceptual discussion	Critical review of ethics research	Conceptual analysis	Ethics research does not address the substantive issues facing accounting practice
Models						
Noreen	*Accounting, Organizations & Society* (1988)	N.A.	Agency theory	Agency model of the economics of ethical behavior	Modelling	Shows ethical behavior is necessary for functioning of markets
Lampe & Finn	*Auditing: Journal of Practice and Theory* (1992)	129 students, 106 staff, and 123 manager-level auditors	7 ethical dilemma vignettes	Further understanding of auditor's ethical decision processes by comparing a code-implied model, a cognitive model, and the five-factor decision model	Significant differences between groups	The five-factor model describes how and why auditors make ethical decisions better than the code-implied model
Flory, Phillips, Reidenbach, & Robin	*The Accounting Review* (1991)	CMAs (314)	Mailed survey – scenarios	How accountants make ethical judgments	Factor analysis	Moral equity, relativism, and contractualism capture a substantial amount of the decision dynamics in ethical judgments
Schweikart	*Journal of Business Ethics* (1992)	N.A.	Model of the role of ethics in accounting decision making	Considers how ethical considerations enter into accounting decisions	Conceptional analysis	Developed testable propositions about ethics and accounting decisions
Measurement						
Cohen, Pant, & Sharp	*Journal of Business Ethics* (1993)	MBA students (92) and accounting faculties (113)	Questionnaire – 3 scenarios mailed to faculty administered by MBAs	Extends generalizability of the Reidenbach & Robin multidimensional ethics scale to accounting in other countries	Factor analysis	A refined multidimensional scale was developed and the reliability of the scale holds for this different sample and context

APPENDIX B

Smoke And Mirrors

CPA Chuck Adkins has just completed a year-end review and tax return for XYZ, Inc. XYZ is a five-year-old privately held company. During the five years, the business has grown substantially and has generated a comfortable living for its owner and CEO, Jack Hanson. In order to grow further, Hanson is considering taking the company public.

The company has failed, as many closely held businesses do, to keep careful records. Until now XYZ had not had an outside accountant. Consequently, most of the company's financial history is to be found in various loan applications and tax returns over the years. In anticipation of doing an audit when the company goes public, Adkins has been reviewing all of the past records that are available. Adkins review of the company's books has revealed various "soft spots" in the records as well as potentially undervalued assets.

In conversations with Adkins, Hanson has indicated that he plans to approach Big Bank for needed working capital to fuel expansion. The line of credit will be secured by all receivables, inventory, and equipment owned by the company. Hanson has been told that the line of credit has a formula related to fluctuating receivable and inventory levels and a fixed amount for the equipment.

The bank requires the review by an accountant as part of the loan approval process. After completing the review for the year just ended, Adkins calls Hanson and tells him that his company has suffered a significant loss of $125,000. Sales during the prior three years had run between $1.5 and $2 million. Hanson responds that he had expected a loss like that because XYZ lost a major contract. Unless new business is found to replace the contract, things could be tight for a few years.

After reviewing the financial statements with Adkins, Hanson tells him, "You know, if Big Bank sees these statements, we're sunk. We'll never get the line of credit." Adkins assures him that the company still has significant net worth despite a bad year. He doesn't think that Big Bank will reject the loan application over the one-year loss. Adkins suggests that Jack go to the bank with a plan to deal with the problem, citing the five-year history of growth. Hanson is not convinced; the bank has made it clear that it would take a close look at current performance prior to extending the line of credit. If the credit isn't forthcoming, XYZ will have a hard time paying suppliers on time. If materials or parts are held up, delivery deadliness will not be met and the income situation will deteriorate further.

Hanson asks, "Chuck, how can we make this look better? You accountants know that there are various ways to interpret and report data. Certainly you know how to change the numbers to present a better picture. Can't the undervalued assets be restated? What about all that goodwill we have generated by quality products and prompt service? That must be worth something. Or what about receivables? Maybe all those accounts that you wrote off weren't all that bad; perhaps we could carry some of them for a while longer. Tell me, what can we do now?"

Hanson's attitude makes Adkins uneasy. At the same time, XYZ is in an industry where Adkins's accounting firm has been trying to gain a foothold for some time. The XYZ account could mean as much as 25% of his firm's income in terms of all of the opportunities for service. In today's competitive market, every prospective client is valuable.

Please respond to the questions pertaining to the case: Smoke and Mirrors.

Responses To Cases

Case 1 Smoke and Mirrors (please circle number)

Using your own personal experience as a basis, respond to the following questions as if you were in CHUCK's situation.

1. I believe that the bank and creditors may be deceived if CHUCK makes the changes suggested by the CEO.

   1------2------3------4------5------6------7
   Strongly Disagree — Strongly Agree

2. I believe that if CHUCK makes the changes suggested by the CEO, his integrity will be compromised and the CEO may have more questionable demands later.

   1------2------3------4------5------6------7
   Strongly Disagree — Strongly Agree

3. I believe that CHUCK should make the changes suggested by the CEO because this will make him happy and future business would be assured.

   1------2------3------4------5------6------7
   Strongly Disagree — Strongly Agree

4. I believe CHUCK should tell the CEO that he cannot make the changes.

   1------2------3------4------5------6------7
   Strongly Disagree — Strongly Agree

5. I believe CHUCK should talk to the CEO about his concerns and look for a compromise.

   1------2------3------4------5------6------7
   Strongly Disagree — Strongly Agree

6. I believe the accountant's duty is to maintain the fiscal health of the client firm.

   1------2------3------4------5------6------7
   Strongly Disagree — Strongly Agree

7. I believe the bank and prospective creditors have the right to know the client's financial position.

   1------2------3------4------5------6------7
   Strongly Disagree — Strongly Agree

8. I believe the accountant's primary responsibility is to increase the business of the accounting firm.

   1------2------3------4------5------6------7
   Strongly Disagree — Strongly Agree

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Book Review

The IASC-U.S. Comparison Project: A Report on the Similarities and Differences between IASC Standards and U.S. GAAP based on a Study Undertaken by the FASB Staff *edited by Carrie Bloomer, Norwalk, Connecticut, 1996, 426 pages.*

The motivation for this book was clearly described by the Financial Accounting Standards Board (FASB). Consistent with the mission of the FASB, their plan for international activities includes efforts promoting international comparability of accounting standards. The FASB's concern with internationalization results from the International Accounting Standards Committee's (IASC) commitment to develop core international accounting standards by 1998 that are acceptable to International Organization of Securities Commissions (IOSCO) members for cross-border listings. Since the Securities and Exchange Commission (SEC) is a member of IOSCO, IOSCO's acceptance means foreign firms' financial statements based on IASC standards could compete in U.S. capital markets along with U.S. firms using U.S. generally accepted accounting principles (GAAP). Questions naturally arise as to the differences in the information and the quality of the information provided by financial statements prepared by both U.S. and foreign firms using IASC standards instead of U.S. GAAP.

The staff of the FASB conducted and documented their extensive study comparing IASC standards and U.S GAAP. The book describing their study has two parts. Part I includes an introduction and overview of the study (Chapters 1, 2, and 3), and Part II contains the comparative analyses of individual International Accounting Standards (IAS) to U.S. GAAP (Chapters 4 through 27).

The objectives of the FASB study are clearly delineated in Chapter 1: 1) to provide a basis for increasing the quality and reducing the differences between FASB and IASC standards; 2) to provide a tool for financial statement users to use when comparing U.S. firms with firms using IASC standards; 3) to provide a resource for assessing the acceptability of IASC standards by firms trading in U.S. capital markets; and 4) to provide a resource for assessing the structures and processes of the IASC and FASB.

Chapter 2 describes the categories used to identify the variations between IASC standards and U.S. GAAP. Two groups were first established. Group 1 included variations on topics addressed by both IASC standards and U.S. GAAP, and Group 2 included variations that exist because the topic is addressed by either the IASC or the FASB, but not both. Group 1 was further subdivided into four categories of variations: A) similar approach and guidance; B) similar approach but different guidance; C) different approach; and D) alternative approaches permitted. Group 2 was subdivided into 2 types: 1) existence differences where IASC standard addresses a topic not explicitly addressed by the

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U.S.; and 2) existence differences for special activities where U.S. GAAP addresses topics not addressed by IASC standards, primarily due to specialized industries.

The frequency of the variations for all Group 1 categories and the Group 2 existence differences where IASC standards exist was presented and summarized. The extent of the differences between IASC standards and U.S. GAAP is readily apparent. All Group 1 variations and Group 2 existence differences totaled 255. Similar approaches were identified for 135 (53%), even though different guidance was identified for 79 of the variations with similar approaches. Different approaches were identified for 56 (22%) variations, and 27 (11%) involved alternative approaches being permissible by both IASC and the FASB.

While different approaches and guidance exist for 33% of the variations, the extent of the differences is actually more pervasive. The authors note that similar approaches are not necessarily identical, and differences in guidance can produce significantly different reported results; in addition, a collection of small differences can lead to materially different results. The variations where alternatives were permitted were further categorized as to whether the IASC specified a benchmark treatment; the authors viewed this category as being the most important in assessing the comparability of financial statements using IASC standards versus U.S. GAAP. The authors also noted that the difference in the level of detail in the IASC standard versus U.S. GAAP did not automatically result in categorization as different approaches. Finally, other potential differences could initiate from the difference in guidance provided in the "standards paragraphs" versus the "background materials and implementation guidance" of the IASC standards.

Chapter 3 provides a comparison of the structures and processes of the IASC and the FASB. The purpose is to provide an additional context for users to evaluate differences in accounting approaches. This chapter includes the following aspects of the structures and processes: institutional structure, mission, board members, project staffing, board meetings, sponsoring organizations, oversight organizations, advisory organizations and groups, supplemental standard-setting organizations, conceptual framework, accounting pronouncements, due process, and enforcement of standards.

Within Chapter 3, tabulated narratives are used to compare the above-mentioned aspects, and key differences are noted for each under the tables. Appendices to the chapter include the detailed comparison of each of these aspects. Both the body of the chapter and the appendices provide clear evidence of the differences in the environment in which the IASC and the FASB operate. The authors, as expected, strongly support the FASB structures and processes in the belief that high quality accounting standards result from the rigor and independence of their operations; the authors also acknowledge that their opinion in this regard "may not be shared universally." The authors note that the institutional framework emphasizes the need for an independent standard-setting body, and the conceptual framework emphasizes the need for an organized (rather than random) body of theory to support standard setting.

Part II begins with a description of the methodology used in the study. The procedures involved assigning individual FASB staff members to specific IASC standards that were analyzed in terms of scope, definition, recognition, measurement, display, and disclosure. Variations were identified, the impact and significance of the variations were assessed, and examples were provided when possible. The variations in approach and guidance were also classified for each topic, and these were reviewed by multiple staff members.

An internal FASB review committee, consisting of FASB staff and Board members, checked for accuracy and provided additional narratives or examples when appropriate. In addition to internal reviews, external reviews solicited feedback from analysts, practitioners, academics, and others. Selected external comments are included with the FASB staff member analysis. This external review is consistent with one objective of this study—to provide a tool to serve as an information resource for external users to assess comparability of U.S. versus non-U.S. financial statements. Other special considerations were also identified which provide a better understanding of the comparisons made.

Chapter 4 through Chapter 27 each provide a summary of the comparison of individual IASC standards (in ascending order) to their U.S. GAAP counterparts. If the IASC was in the process of developing a new standard that would supersede existing IASC standards, only a brief summary was provided which was not subjected to external review. For all others, the first page provides a summary of the major differences and the potential impact of replacing U.S. GAAP with the IASC standard. In addition, selected external reviewer comments were included at the beginning of the chapter. After the summary and external reviewer comments, a detailed description of the similarities and differences in scope, definitions, recognition, measurement, display, and disclosure are provided. I believe that the level of detailed analysis for each IASC standard and the comparison to U.S. GAAP (including specific references to pronouncements) should serve the needs of multiple users, including both academics and practitioners. The input from practitioners (including both external reviewers and selected FASB staff and Board members) provides insight regarding the differences in the actual application of these standards, not merely the differences in the rhetoric included in each.

In summary, the FASB staff developed an effective methodology for comparing IASC standards to U.S. GAAP that includes both an internal and external review process. Input was obtained from a cross-section of interested parties—analysts, practitioners, academics. A classification scheme was developed with the purpose of identifying the extent of the variations between international and U.S. standards. This classification scheme and analysis was conducted for individual IASC standards and also summarized for purposes of identifying overall similarities and differences. The rational for both including and excluding standards from the study was provided. The analysis of each IASC standard provides a summary as well as a detailed analysis, focusing on strengths and weaknesses of both the IASC and FASB approaches. Summaries and detailed descriptions and tables were used to document the structure and processes of the IASC and FASB; these provide a better understanding of the environment in which the standard setters operate, and thus, a better understanding of the differences in their standards developed. Readers who are not familiar with international accounting standards but are familiar with U.S. GAAP will find this document very useful for understanding IASC standards and how they compare to U.S. GAAP.

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